Governor's

Moloka'i Subsistence

Task Force

Final Report

June 1994

Honolulu Hawai'i

Governor's

Moloka'i Subsistence Task Force Final Report

Co-Chairs:

Dona Hanaike and Kelson (Mac Poepoe)

Members:

Anthony Diorec, James Duvachelle, Noelani Joy,
Halona Kaopuiki, Kevin Misaki, Walter Naki,
Henry Pali, Jr. John Rowe, and Johnnie Sanders

June 1994

Compiled and edited

by

Jon Matsuoka, Davianna McGregor, Luciano Minerbi
CAN-DO
University of Hawai'i at Mānoa
and
Malia Akutagawa
Ke Kua'aina Hanauna Hou

for

The Moloka'i Subsistence Task Force

and

The Department of Business, Economic Development & Tourism
State of Hawai'i

Honolulu, Hawai'i

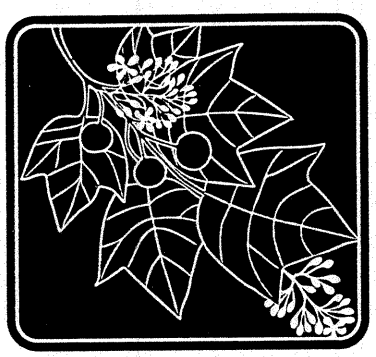
Table of Contents

List of Tables

List of Maps

List of Figures

List of Appendices



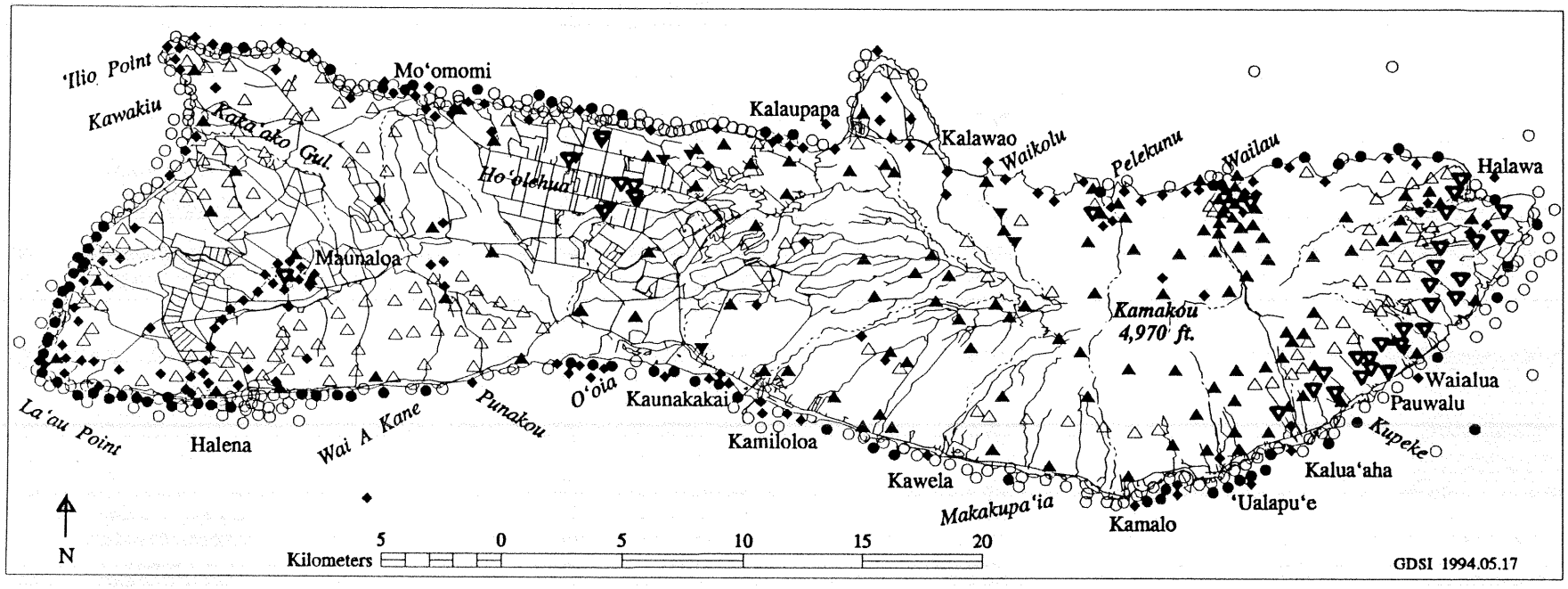
Acknowledgments

There are many persons who helped the Task Force and the consultants conduct the random sample survey and the focus groups. We are grateful for their support and aloha. Colette Machado and Malia Akutagawa of Ke Kua'aina Hanauna Hou coordinated the interviewing for the random sample survey and the logistics for the focus groups. The interviewers were Jeremy Bennett, Jay-R Kaawa, Elizabeth Lawrence, Leonida Molina, Gandharva Ross, and Chiemi Talon. Noa Emmett Aluli, M.D. provided housing, meals transportation, and computer time; Bill Puleloa of the DLNR Aquatics Division provided insights, data and graphs; Wayde Lee of Hui Malama O Mo'omomi opened most of our meetings with a pule and provided valuable input and insights; the staff of the Moloka'i DBED office Walter Ritte, John Sabas, and Bobbi Nakamura provided support; Jane Lee and Billy Akutagawa provided advice and helped us network with the community; Greg Helm and Julie Kaupu helped set up the meetings with Hawaiian homesteaders and Greg assisted in networking with homesteaders and the Department of Hawaiian Home Lands; Anita Arce and Na Pu'uwai organized and hosted the focus group with the La'au Lapa'au practitioners; Royce Jones and Geographic Decisions Systems International (GDSI) assisted in digitizing the practitioners' dot map into the ARC/INFO Geographic Information System (GSI) using the UNIX Workstation; Mrs. Ruth Yap arranged for the use of the Moloka'i Department of Health offices; Ted Takamiya arranged for the use of the Queen Lili'uokalani Children's Center meeting room; and Luana Alcon of the County of Maui Parks and Recreation assisted with meeting rooms. Mahalo and aloha.

Executive Summary

On Moloka'i, subsistence is the customary and traditional uses by Moloka'i residents of wild an cultivated renewable resources for direct personal or family consumption as food, shelter, fuel, clothing, tools, transportation, culture, religion, and medicine; for barter, or sharing, for personal or family consumption and for customary trade.

Governor's Task Force On Moloka'i Fishpond Restoration, 1993.



SUBSISTENCE SITES

- Fishing
- Ocean Gathering
- Streams
- Gardening
- Raising Animals
- Roads & Trails
- Hunting
- Forest & Stream Gathering
- Future Sites to Access and/or Protect

Source: Focus Group Participants
Moloka'i Subsistence Task Force Report (1994)

Background

In February 1993, Governor John Waihee appointed the Moloka'i Subsistence Task Force to document how important subsistence is to Moloka'i families and how much of the families' food comes from subsistence. The task force was also asked to determine the problems which were making it harder to do subsistence fishing, hunting, and gathering on Moloka'i and to recommend policies and programs to improve the situation. The definition of subsistence at the beginning of this section was adopted by the Governor's Moloka'i Subsistence Task Force for the purposes of this study.

Traditionally, Moloka'i, with its extensive protected reefs and fishponds gained the reputation of a land of "fat fish and kukui nut relish." Moloka'i Hawaiians obtained marine resources from the shallow offshore reefs; the deep sea channels between Moloka'i and Maui, O'ahu, and Lana'i (Pailolo, Kaiwi, and Kalohi); the deeper ocean off of the island's north shore; and from an extensive network of human constructed fishponds.

Over the years, a number of activities contributed to the degradation of the natural environment of Moloka'i. Offshore reefs and oceans were impacted by pollution, erosion and soil run off from tourist, residential development, and ranching. Sand from the West End of Moloka'i was mined and shipped to O'ahu to make cement to build the freeways and hotels and to replace loss sand at Waikiki Beach. Gravel and rocks from East Moloka'i were used in freeway construction on O'ahu. Ranching on the East End contributed to deforestation, erosion and runoff. Once productive fishponds were allowed to fill with silt and the walls fall to disrepair following tsunamis and storms. Over-harvesting of marine resources relied upon for subsistence is a growing problem. Traditional resources such as the turtle cannot be used for subsistence under new federal regulations. Wildlife such as deer, goats, pigs, and birds are abundant on privately owned lands but are too scarce to be hunted on public lands.

In 1987 the last pineapple company closed its operations. In that same year, a tuberculosis epidemic led to the decision to eradicate all the cattle on Moloka'i. Moloka'i General Hospital phased down its operations, stopping all maternity deliveries. Moloka'i's unemployment rate was three times the state's average at nearly 20%. Many small businesses shut down. Subsistence fishing, hunting, gathering, and cultivation provided a reliable means of support for the community during the rough economic times.

Many families on Moloka'i, particularly Hawaiian families, continue to rely upon subsistence fishing, hunting, gathering, or cultivation for a significant portion of their food. Availability of the natural resources needed for subsistence is essential to Moloka'i households where the unemployment rate is consistently higher than

on other islands and a significant portion of the population depend upon public assistance.

Subsistence has also been critical to the persistence of traditional Hawaiian cultural values, customs, and practices. Cultural knowledge, such as about place names; fishing ko'a; methods of fishing and gathering; or the reproductive cycles of marine and land resources have been passed down from one generation to the next through training in subsistence skills. The sharing of foods gathered through subsistence activities has continued to reinforce good relations among members of extended families and with neighbors.

Goals, Objectives, Research Activities, Final Product

The investigators employed a variety of data collection techniques to provide documentation for the policy recommendations. The quantitative technique of a random sample survey was conducted in order to gain a broad picture of behaviors and attitudes regarding subsistence practices on Moloka'i. The qualitative techniques of focus groups and mapping was used to gather detailed descriptive information regarding subsistence beliefs, methods, and issues. Data is available across a quantitative-qualitative continuum which is useful for cross-referencing of results and identifying any variations.

Results of the Random Sample Survey

The survey and focus groups confirmed that Moloka'i continues to be a rural island where subsistence is one of the basic economic activities:

- Among the random sample group surveyed across the entire island, 28% of their food is acquired through subsistence activities.
- Among the Hawaiian families surveyed, 38% of their food is acquired through subsistence activities.
- Among the respondents, 76% ranked subsistence as very important and somewhat important to their own families.
- Respondents reported receiving food acquired through subsistence activities approximately once a week.
- Virtually every respondent believed that subsistence was important to the lifestyle of Moloka'i.

The three major problems identified were:

- Off-island people who take too much
- Taking of undersized juveniles
- Lack of access

The map at the beginning of this section was generated by subsistence practitioners who participated in focus groups. It graphically shows that a full range of subsistence activities are conducted throughout the island. There is a mix of activities in each of the major districts of the island. Perhaps, for this reason, subsistence practitioners envisioned reviving, district-by-district the traditional community-based ahupua'a management approach.

The prevalence of subsistence on Moloka'i was reflected in the amount of food that was derived from these practices and feelings about its overall importance to families. The fact that families were highly dependent on subsistence for survival, especially Hawaiians, points to the value of subsistence as a sector of the economy. This dependency on subsistence resources is even more paramount when examined against the backdrop of relatively low income levels on Moloka'i. Close to half of the sample made less than $20,000 annually. This low monetary amount has implications for purchasing power, diet, recreation, and family and community dynamics.

Without subsistence as a major means for providing food, Moloka'i families would be in a dire situation. Subsistence provides families with the essential resources that compensates for low incomes and a means for obtaining food items that may be prohibitively costly under a strict cash economy. Food items like fish, limu, and deer meat which are normally obtained through subsistence are generally unavailable or are very costly in stores. If families on fixed incomes were required to purchase these items, they would probably opt for cheaper, less healthy foods that would predispose them to disease and other health problems. In this respect, subsistence not only provides food, it also ensures for a healthy diet that is critical to the prevention of disease.

Subsistence generally requires a great amount of physical exertion (e.g., fishing, diving, hunting) that burns calories and improves aerobic functioning. It provides a valuable form of exercise and stress reduction that contributes to positive health and mental health. Subsistence also requires a lot of time. Those who engage regularly in subsistence are less prone to the types of problems that afflicts those who are at a loss for meaningful activities. The lack of activities is often correlated with lethargy, boredom, or other conditions that contribute to obesity, substance abuse, etc.

According to the results of our study, subsistence is analogous to recreation for a majority of respondents. It is a form of recreation that, once all of the essential equipment is obtained or made (e.g. fishing tackle, diving gear), is relatively inexpensive. And unlike most other forms of recreation that are costly every time they are engaged in (e.g., golf green fees) and intended to provide a sense of psychological fulfillment, subsistence has economic and cultural benefits as well.

Beyond the immediate economic and health advantages that come with subsistence are other qualities that serve to enhance family and community cohesion and perpetuate culture and spirituality. Subsistence is an activity that provides prescribed roles for its members. Family members of all ages feel that they contribute to family welfare through their involvement in subsistence. Subsistence activities are a central part of camping trips or family outings and parents and children alike are involved in catching fish and gathering marine resources. Older children are oriented towards subsistence by their elders who teach them about techniques and the behaviors of various species.

On another level, subsistence provides a basis for sharing and gift-giving within the community. Residents generally ascribe to a process of reciprocity and sharing with those who are unable to obtain resources on their own. Families and neighbors exchange resources when they are abundant and available, and the elderly are often the beneficiaries of resources shared by younger, more able-bodied practitioners. Some practitioners believe that they must share their catch with others even when it is meager, because generosity is rewarded by better luck in the future.

Resources obtained through subsistence are used for a variety of special occasions that bond families and communities. Resources such as fish, limu 'opihi, deer meat, etc. are foods served at birthdays, lu'au, graduations, and holiday celebrations. 'Ohana and community residents participate in these affairs that cultivate a sense of communal identity and enhance social networks.

Time spent in nature cultivates a strong sense of environmental kinship that is the foundation to Hawaiian spirituality. Subsistence practitioners commune with nature, honor the deities that represent natural elements and life forces, learn how to malama or take care of the land, and develop an understanding about patterns and habits of flora and fauna.

While traversing the land, practitioners also become knowledgeable about the landscape, place names and meanings, ancient sites, and areas where rare and endangered species of flora and fauna exist. This knowledge is critical to the preservation of natural and cultural landscapes because they provide the critical link between the past and the present. For example, wahi pana or sacred sites that are referred to in ancient chants and legends are often lost amidst changes due to modernization. The identification or rediscovery of these sites provides a continuity that is critical to the survival and perpetuation of Hawaiian culture.

An inherent aspect of traditional subsistence is the practice of conservation. Traditional subsistence practitioners are governed by particular codes of conduct that are intended to ensure for the future availability of natural resources. Rules that guide behavior are often tied to spiritual beliefs concerning respect for the 'aina, the

virtues of sharing and not taking too much, and a holistic perspective of organisms and ecosystems that emphasizes balance and coexistence.

The finding that younger age cohorts were more involved in subsistence and related practices than older people is not surprising given that the former group is more physically active and generally has more dependents to feed and care for. This finding may also reflect a resurgence or renewed interest in traditional Hawaiian practices among younger people. Men were more involved in various types of subsistence than women. This result reflects gender role variations for particular activities. Traditionally, activities such as fishing and hunting were done by men. The fact that men continue to dominate these activities points the continuation of certain traditions.

Hawaiians engaged in subsistence and related practices more than other ethnic groups. This finding reflects the importance of subsistence to this group and the perpetuation of culture through subsistence activities. As mentioned previously, subsistence also plays an important economic role, and this may be especially true for Hawaiians who generally have lower incomes. The fact that Hawaiians engage more in subsistence than others also points to how these activities are embedded in the culture and can be explained through a history of adaptation, the development of an indigenous economy, and the maintenance of cultural traditions despite the influx of foreign lifeways. It is important to note that the other groups (e.g. Filipinos, Japanese) engaged in subsistence, although not at the same level as Hawaiians.[1]

Those born and raised on Moloka'i had higher rates of subsistence and related activities than those from other places. This can be explained by the unique subculture of Moloka'i that is manifested through its lifestyle and socialization practices that encourage subsistence. Those born and raised elsewhere are not exposed to the same socialization experiences, especially if they come from urban environments on the mainland and elsewhere. Subsistence may not be a part of their growing up because it wasn't stressed within their culture and resources were not available.

The same process holds true for long-time residents. Whether a function of age, generation, or exposure over time, the longer one lives on Moloka'i, the more likely they are to engage in subsistence.

Finally, married people with large families (households) engaged in subsistence more than single people or those with smaller families. This again points to the economic benefits derived from subsistence, especially in family

---

[1] Some groups may also be concentrated in certain demographic categories that explains their lower subsistence levels. For example, Caucasians on Moloka'i tend to be an older, retired population which may serve to explain why they don't engage in subsistence as much.

situations where there are many people to feed. Larger families or 'ohana may also possess more traditional values than smaller families because they reflect a traditional structure comprised of multiple generations. Thus, they are more inclined to engage in subsistence. Smaller families tend to be nuclear, reflecting a physical separation from parents or grandparents who are a crucial element to the perpetuation of cultural values. Smaller families may also be comprised of older members whose children have migrated to other locations.

Subsistence Trends and Issues

Focus group discussions with subsistence practitioners on Moloka'i revealed that subsistence is vital to families throughout the island, for economic, cultural, and social reasons. While subsistence is widespread and actively practiced, there is a growing concern on the island that mounting pressures are leading to overharvesting that will ultimately wipe out the natural resources which the community relies upon for subsistence. At the heart of the matter is recognition of and conforming with traditional Hawaiian subsistence values, customs, methods and practices. The primary reason why Moloka'i has the natural resources it needs for subsistence still in tact is because previous generations of subsistence practitioners lived in accordance with 'ohana values of sharing and respect and faithfully followed traditional and customary practices and kapu (rules of conduct).

The present generation of subsistence practitioners are faced with new challenges and problems from tourism, commercialism, and newcomers who are ignorant of Hawaiian subsistence value, customs, and practices. Hawaiian practices that were customarily passed down from one generation to the next are being set aside in light of increasing competition from off-island fishermen and hunters and new residents from continental U.S. and the Philippines. There is a growing feeling that if you don't take everything when you see it, then someone will take it before you come back the next time. Thus, rather than taking only what is needed, more is harvested . . . and sometimes wasted. The widespread use of large freezers has also contributed to overharvesting. Before, the ocean was "the icebox" and one only gathered enough for the 'ohana and close neighbors and kupuna to eat. Now subsistence practitioners gather more than what their family can immediately eat and the surplus is stored in freezers.

Many of those who have not been trained by kupuna in subsistence skills are using improper methods to harvest. For example, limu beds are disappearing because people are pulling it up from its roots, rather than plucking it. Traditional Hawaiian practice which dictated that only mature resources be gathered and that the reproductive cycles be respected are not honored by newcomers. Thus juvenile marine life is being harvested. Fish, squid, and lobster are being harvested during their spawning season when they congregate together near to the shore and are easier to catch. Moemoe nets, gill nets and lobster nets are indiscriminately trapping

any marine life and some areas are fished out, such as between Kaunakakai and Makakupa'ia. In hunting deer, the mentality of going after the trophy rather than going to get food for family and neighbors has reduced the herd count. Night poaching of deer poses a danger to public safety and has contributed to wasting of carcasses. Soaring prices for 'opihi in markets and catering businesses on O'ahu, where the 'opihi has been wiped out, is leading to increased harvesting of 'opihi for commercial sale. For example, in 1993, all the 'opihi from Kalaupapa to Hālawa was wiped out in 7 days of the zero tides in March and April. There was no 'opihi to be gathered during the summer. 'Opihi on the West End is gone. Off island boats take massive quantities of 'opihi from Dixie to the Northwest side. The severest enforcement problem is on the backside, particularly with regard to the moi fishing grounds.

Certainly, the natural resources of Moloka'i and its surrounding waters are still sufficient to support both subsistence and commercial harvesting. Otherwise, subsistence practices would not be as widespread and successful as they currently are. However, the resources are not as abundant as adult subsistence practitioners remember them to be when they were growing up. Moloka'i subsistence practitioners have arrived at a crucial juncture. There is increasing concern that if something is not done **now** to reverse the trend of overharvesting and diminishing resources, there will be nothing left for future generations. Key to restoring a balance between subsistence harvesting and diminishing natural resources will be the community wide acceptance of traditional Hawaiian subsistence values and practices. These need to be taught, understood, accepted, and practiced by everyone who engages in subsistence hunting, fishing, and gathering, on Moloka'i no matter what their ethnic ancestry may be.

There needs to be a commitment by everyone in the community to manage the natural resources of Moloka'i not just to benefit the current generation, but for the well-being of six and seven generations into the future. This commitment can be secured primarily through educational programs which will provide training in proper methods of harvesting subsistence resources and try to inspire acceptance of the traditional values of caring for and nurturing the land and the ocean. Education should be disseminated through the Moloka'i schools; Department of Land and Natural Resources education initiatives, including the hunter education classes, brochures and public information media of the Division of Aquatic Resources, and community organizations.

New fishing rules and regulations and community-based management of natural resources will also be important for immediately curbing trends in overharvesting. The Department of Land and Natural Resources will need to moderately increase the number of enforcement officers assigned to Moloka'i, preferably from the local community. However, government enforcement is not seen as a solution to better management of the island's resources. Subsistence and commercial users need to take responsibility for their own actions. Volunteers, peer

pressure, and community-based resource managers can more effectively promote the proper utilization of resources.

Restocking will also be an important component to sustaining subsistence resources on the island. Natural hatcheries, such as at Mo'omomi and Kawa'aloa Bays and along the South shore need to be protected as sanctuaries for the fish to breed. The Department of Land and Natural Resources should streamline the permitting process for community-based economic development groups to reopen the traditional fishponds which are now part of the ceded public lands trust. Hatchery programs should be attracted to foster the propagation of marine life in the fishponds and in selected bays around Moloka'i.

The other major area of concern to subsistence practitioners on the island is the provision of customary access to all parts of the island. Moloka'i people, from young to old, want to have access to all areas of the island, if not by vehicle, then at least by foot. Of particular concern are areas of Moloka'i Ranch that were formerly open under the pineapple company but have since been closed by the new landowners. It would be acceptable to have access regulated by the use of permits and keys. Limiting access to certain areas of the island to foot trails would also serve to limit the amount of resources which can be harvested. A relationship of mutual trust and responsibility can evolve over the next period for both use and management of the resources of Moloka'i, particularly in the Ahupua'a of Kaluako'i.

In summary, subsistence on Moloka'i will continue to be essential to the lifestyle of the people. Community-based management of the resources, rooted in traditional values of aloha 'aina and malama 'aina and empowered with the responsibility for monitoring of the resources will be critical in assuring a subsistence lifestyle for future generations on Moloka'i. The other major facet to the perpetuation of subsistence activities and the protection of the necessary natural resources will be the recognition of subsistence as an essential and viable sector of the overall economy and balancing future economic development and growth on the island to assure its continuation.

Subsistence as a Sustainable Sector of Moloka'i's Economy

A primary reason for the continuation of subsistence practices on Moloka'i has been the continued availability of renewable natural resources. In turn, while years of macroeconomic strategies have wreaked havoc on Hawai'i's natural environment and endemic species of flora and fauna in urban areas and on plantations, subsistence practices have allowed the natural resources in rural communities like on Moloka'i to persist.

Despite how resilient subsistence on Moloka'i has been up to this point, a key concern among focus group participants was how long subsistence practices could be maintained in the face of diminishing returns. Unless drastic and decisive measures are undertaken to protect habitats and the critical mass of species required for regeneration, future generations may not be able to engage in subsistence practices for lack of adequate returns. That is, the amount of resources obtained will not be worth the amount of effort exerted.

A key dimension to the theory of sustainable development is how to offset environmental degradation through preservation. This dimension is germane to our understanding of the issues that surround the Moloka'i Subsistence Task Force. Although Moloka'i's population has remained static over time, burgeoning neighboring island populations have resulted in intense competition over resources that are considered to be rightfully those of Moloka'i residents. Because of overharvesting and resource depletion in places like O'ahu and Maui, subsistence and commercial harvesters have sought to exploit the more abundant resources of Moloka'i. Problems have occurred because of conflicting views about territoriality and tenant's rights, perceived threats to Hawaiian traditions by greedy users who take too much, more efficient technologies (e.g. faster boats) that have overwhelmed natural carrying capacities, etc.

The most common concern among those who are identified as traditional practitioners is that current trends will impair the future productive capabilities of the 'aina. The natural equilibrium that is based on rates of "take" and replenishment has been disturbed by heightened competition over resources and environmental degradation. This seriously reduces the opportunity for future generations to partake in the traditional activities that are believed to be at the basis of Hawaiian well-being.

Beyond the direct resource and material rewards resulting from a subsistence economy are cultural benefits that are critical to community and family well-being. A subsistence economy emphasizes sharing and redistribution of resources which creates a social environment that cultivates community and kinship ties, emotional interdependency and support, prescribed roles for youth, and care for the elderly. Emphasis is placed on social stability rather than individual efforts aimed at income generating activities. We found in our study that large families were more dependent than smaller families on subsistence resources and all members who were old enough played a role in gathering resources. When a resource was caught or gathered in large quantities during certain seasons, it was common practice to share with 'ohana or community members. The kupuna or elderly were especially reliant upon the process of sharing and exchange because many were not able to engage in strenuous physical activities associated with subsistence. In their earlier years, they were benefactors in this same process. Subsistence, as a process of sustainable development, is a value-laden economic system that places emphasis on social relations over exponential growth rates.

Given all of these factors, subsistence has been a viable sector of the economy that has continued to function along side the sugar and pineapple plantations and the ranches. Hawaiian extended families commonly supplemented their incomes with subsistence fishing and hunting. Unfortunately, subsistence is generally not recognized as a bonified economic sector by western economists. In the face of economic decline in Hawai'i, such as with the phasing out of agribusiness, decisions are generally made that promote new economic development that is based on a linear process towards capital accumulation. This usually comes in the form of tourism.

Subsistence is usually not assessed in terms of how it will be impacted or considered as a viable alternative that will at least partially compensate for the loss of jobs and revenues. The impact of tourism and related commercial activities on subsistence is not seriously factored in as an economic or social cost. The most common trend that is supported by government and labor unions is to find quick replacements to plantation closings. Thus, little is known about how communities fare when left to their own devices in the aftermath of a failed economy. What is not taken into account in the decision-making process is peoples' staying power or their commitment to a place to which they often have genealogical ties, cultural heritage, and their willingness to try alternative approaches to achieving sustainability.

Moloka'i provides a rare example of how residents adapted to changing economic circumstances without massive external intervention. Historical accounts have indicated that when agribusiness closed on Moloka'i, subsistence became a more vital aspect of the economy.[2] Through community-based efforts, residents organized to successfully stave-off tourism development while promoting values related to community and family integrity. Subsistence and other community-based endeavors are considered the forces that bind together the social elements necessary for cultural perpetuation. Subsistence, should not be viewed as a replacement economy per se, but as a tradition that has survived after macroeconomic strategies (i.e., plantations, ranches) failed.

Whatever economic recovery strategy is selected, it should allow for subsistence to continue to play a significant role. This is especially critical on Moloka'i where natural resources are available and subsistence is an integral part of lifestyle. Community planning is a proactive strategy that should encourage a functional coexistence and balance between subsistence, the market economy, and government.

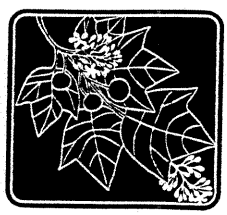
---

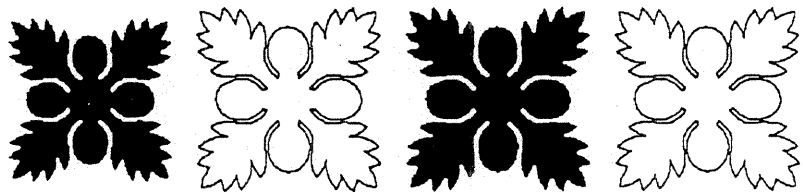
[2] Informants reported that subsistence rates increased after the closure of Del Monte, yet because there are no baseline measures, this belief cannot be empirically verified.

Action Plan

There are six components to the proposed action plan for implementation. The Task Force initiated some of the programs in 1993-94. The components include the following:

- Ongoing negotiations with Moloka'i Ranch regarding access
- Establishing the Mo'omomi Subsistence Fishing Area
- Educational programs
- Amendments to Hawai'i Fishing Regulations
- Endorsement of homesteader management of Hawaiian Homes hunting grounds
- Appointment of a Moloka'i Subsistence Advisory Committee



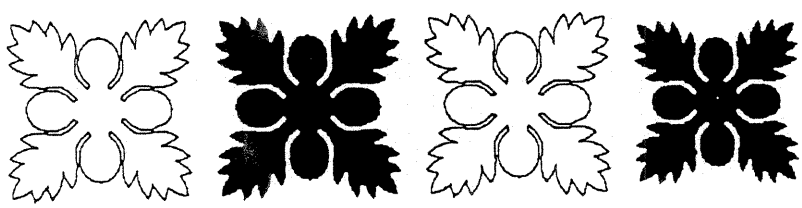


Introduction

Ke ha'awi nei au iā 'oe. Mālama 'oe i kēia mau mea. 'A'ohe mālama, pau ka pono o ka Hawai'i''.

I pass on to you. Take care of these things. If you don't take care, the culture and values of the Hawaiian people will be lost.

Daniel Pahupu, interviewed by Mary Kawena Pukui about Mana'e in 1961.



Moloka'i Subsistence Task Force

In February 1993, Governor John Waihee appointed the Moloka'i Subsistence Task Force to document how important subsistence is to Moloka'i families and how much of the families' food comes from subsistence. The task force was also asked to determine the problems which was making it harder to do subsistence fishing, hunting, and gathering on Moloka'i and to recommend policies and programs to improve the situation. The definition of subsistence at the beginning of this section was adopted by the Governor's Moloka'i Subsistence Task Force for the purposes of this study.

The Moloka'i Subsistence Task Force began to meet in March 1993. The co-chairs were Kelson "Mac" Poepoe of the Ho'olehua Homestead and Hui Malama O Mo'omomi and Dona Hanaike, Deputy Director of the Department of Land and Natural Resources. The members included Noelani Joy and Henry Pali, Jr. of Ho'olehua; Halona Kaopuiki of Mauna Loa; Walter Naki of East End; Anthony Diorec of Kaunakakai; Kevin Misaki of Misaki Store; Jimmy Duvachelle of Moloka'i Ranch; Johnnie Sanders of the Department of Business, Economic Development, and Tourism and John Rowe of the Department of Hawaiian Homelands.

The work of the task force was funded through the Moloka'i Economic Development Office of the Department of Business, Economic Development and Tourism, headed by Walter Ritte.

University of Hawai'i professors, Jon Matsuoka of the School of Social Work, Davianna McGregor of the Ethnic Studies Program, and Luciano Minerbi of the Department of Urban and Regional Planning were hired as the consultants. They were part of a community consultant group called C. A. N. D. O. (Cultural Advocacy Network Developing Options). The on-site coordination of the community sample survey and the focus groups was done by Colette Machado and Malia Akutagawa of Ke Kua'aina Hanauna Hou. Ke Kua'aina is a non-profit Hawaiian community group working on community based economic development projects in East Moloka'i.

Bill Puleloa of the Division of Aquatic Resources of the Department of Land and Natural Resources and Greg Helm, of the Moloka'i Department of Hawaiian Homelands Office also assisted as staff to the task force.

In June 1993, the consultants (C.A.N. D.O.) conducted a random sample survey of the Moloka'i community regarding the extent and importance of subsistence activities on Moloka'i. In July and August 1993 the consultants conducted six focus groups with subsistence fishers, hunters, and gatherers in Kaunakakai, East End, Mauna Loa, and Ho'olehua. One focus group with

commercial fishermen and one focus group with lā'au lapa'au practitioners were also conducted.

With the findings from the random sample survey and the focus groups, the Governor's Moloka'i Subsistence Task Force worked through September and October to propose policies and recommendations for the community to review. The Task Force held a community meeting on November 23, 1993 and received additional recommendations.

A Preliminary Report was submitted to Governor John Waihee in December 1993 for follow-up action on those policies and recommendations which needed legislative action or funding.[3]

In the first section of this final report, the historical significance of subsistence to the families of Moloka'i is discussed. In the second section, an overview of studies about subsistence on other Hawaiian islands is presented. The third section, introduces the scope and research activities of the overall study. The fourth section has a description of the random sample telephone survey design. The fifth section follows with a presentation and analysis of the results of the survey. In the sixth section there is a description of the focus group method and the maps of subsistence sites. The seventh section discusses the trends and issues identified by the focus group participants and the implications of those trends for the overall economy of the island. The eighth section presents the policies and recommendations proposed by the Governor's Moloka'i Subsistence Task Force to protect subsistence on Moloka'i. The ninth section follows with a six-part action plan for implementation. The tenth section provides a discussion of the implications of this study for other islands. Supportive data and documents are included in the appendices.

---

[3]For additional information from the Task Force please contact Dona Hanaike at 587-0392 (ph) or 587-0390 (fax) (DLNR / P. O. Box 621 / Honolulu, Hawai'i 96809) or Mac Poepoe at 567-6525 (Ho'olehua Fire Station, leave message) (P. O. Box 173/Kualapu'u, HI 96757). The consultants can be reached as follows: Jon Matsuoka (956-6123), Davianna McGregor (956-7068), Luciano Minerbi (956-6869).

1. Subsistence and Moloka'i Families

I have everything. What more I want? No island beat Moloka'i. We have everything . . . whereas some islands you don't get everything. I live one of the best life.

Peter Black Namakaeha, interviewed by Mary Kawena Pukui about Mana'e in 1961.

Historical Significance of Subsistence on Moloka'i

Traditionally, Moloka'i, with its extensive protected reefs and fishponds gained the reputation of a land of "fat fish and kukui nut relish." Moloka'i Hawaiians obtained marine resources from the shallow offshore reefs; the deep sea channels between Moloka'i and Maui, O'ahu, and Lana'i (Pailolo, Kaiwi, and Kalohi); the deeper ocean off of the island's north shore; and from an extensive network of human constructed fishponds.

As the natural and cultural resources of Moloka'i are no longer as abundant as the current generation of adults remembers them to be in their childhood, management of the resources traditionally used by the people of Moloka'i for subsistence has become more urgent.

Moloka'i is popularly referred to as the "Last Hawaiian Island." Within the total population of 6,717 in 1990, 49 percent was Hawaiian. Native Hawaiians are beneficiaries of 25 percent of the lands on Moloka'i, those which are part of the Hawaiian Home Lands Trust, the ceded public lands trust, and the Bishop Estate. Native Hawaiians on Moloka'i are actively seeking to restore Hawaiian control over Hawaiian lands and natural resources to reverse the negative impact of years of neglect and mismanagement.

Although subsistence on Moloka'i is long established as Hawaiian custom and practice, other ethnic groups who have settled on the island and adopted to the rural lifestyle also engage in and benefit from subsistence activities.

Over the years, a number of activities contributed to the degradation of the natural environment of Moloka'i. Offshore reefs and oceans were impacted by pollution, erosion and soil run off from tourist, residential development, and ranching. Sand from the West End of Moloka'i was mined and shipped to O'ahu to make cement to build the freeways and hotels and to replace loss sand at Waikiki Beach. Gravel and rocks from East Moloka'i were used in freeway construction on O'ahu. Ranching on the East End contributed to deforestation, erosion and runoff. Once productive fishponds were allowed to fill with silt and the walls fall to disrepair following tsunamis and storms. Over-harvesting of marine resources relied upon for subsistence is a growing problem. Traditional resources such as the turtle cannot be used for subsistence under new federal regulations. Wildlife such as deer, goats, pigs, and birds are abundant on privately owned lands but are too scarce to be hunted on public lands.

Many families on Moloka'i, particularly Hawaiian families, rely upon subsistence fishing, hunting, gathering, or cultivation for a significant portion of their food.

The traditional Hawaiian diet study conducted on Moloka'i in 1982 by Na Pu'uwai, a community-based Native Hawaiian health organization, proved that a diet consisting of traditional Hawaiian foods - fish, taro, breadfruit, sweet potato, etc. reduces weight and the risk of heart disease, high blood pressure and diabetes. Thus, the availability of traditional foods, most of which is acquired through subsistence fishing, hunting, gathering or cultivation, is a critical component for improving health of families on Moloka'i.

Continued availability of the natural resources needed for subsistence is essential to Moloka'i households where the unemployment rate is consistently higher than on other islands and a significant portion of the population depend upon public assistance. In March 1992, the unemployment rate on Moloka'i was 7.4% while it was 3.5% statewide. In March 1993, the unemployment rate of 8.1% on Moloka'i was still higher than the statewide rate of 4.7%. With regard to public assistance, in 1990, 24.4% of the Moloka'i population received food stamps; 12% received AFDC and 32.5% received Medicaid. According to the U.S. census for 1990 21% of the families on Moloka'i had incomes that fell below the poverty level of $12,674 for a family of four. The ability to supplement meager incomes through subsistence is very important to maintaining the quality of life of families on the island.

Subsistence has also been critical to the persistence of traditional Hawaiian cultural values, customs, and practices. Cultural knowledge, such as about place names; fishing ko'a; methods of fishing and gathering; or the reproductive cycles of marine and land resources have been passed down from one generation to the next through training in subsistence skills. The sharing of foods gathered through subsistence activities has continued to reinforce good relations among members of extended families and with neighbors.

Recognition of Subsistence on Moloka'i

The 1978 Hawai'i State Constitutional Convention added, and the voters of Hawai'i ratified, Article XII, Section 7 as part of the Hawai'i State Constitution. This section, which reads as follows, mandates the state and county governments to protect subsistence rights, customs, and practices:

> *"The State reaffirms and shall protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by ahupua'a tenants who are descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778, subject to the right of the State to regulate such rights".*[4]

---

4 Hawai'i Constitution, Article XII, Section 7.

State and County agencies have recognized the importance of subsistence to Moloka'i families and begun to provide a modest level of support. Supplemental federal support for such programs is also being sought.

In 1970, the University of Hawai'i departments of Anthropology and Geography and the School of Public Health sponsored research in human ecology on Moloka'i. The report was published as Moloka'i Studies: Preliminary Research In Human Ecology.[5] It noted that the exchange of wild food in East Moloka'i was due to an abundance of natural food resources of the area and the frequency of interaction among the residents. Between these two factors, maintenance of social relationships was the primary factor and the object of the exchange. The report noted that development of new tourist facilities and expansion of the tourist population would encroach on traditional gathering spots. It concluded that expansion of the tourist industry would therefore result in a decline in the supply of wild foods. In addition, competing forms of entertainment and increased demands on time from tourism, would decrease interest in gathering and contribute to a decrease in wild food exchange.

In 1981 Maui County developed the Moloka'i Community Plan to guide future decisions about development on the island of Moloka'i. Included in the plan is the East End Policy Statement which determined that East Moloka'i should retain its rural character. It encouraged development of aquaculture and restoration of the many fishponds on that part of the island.

In the same year, the Urban and Regional Planning Program of the University of Hawai'i conducted a study which examined the major values of the community. The purpose of the study was to have policy decisions about alternative energy developments be grounded in and reflective of the resident's preferred way of life. It was published as the Moloka'i Data Book: Community Values and Energy Development.[6] The study indicated that the "preferred way of life on Moloka'i" was closely associated with rural living, Hawaiian culture, slow pace, everybody knowing everybody, family togetherness, and living off the land. Tourism, development and higher prices were inconsistent with the preferred way of life on the island.

---

[5] Lewis, Henry, ed. 1970. Moloka'i Studies: Preliminary Research in Human Ecology, Honolulu: Department of Anthropology.

[6] Canan, Penelope, Michael Hennessy, Kathleen Kinsella Miyasiro, Michael Shiroma, Lee Sicher, Debra Lewis, David C. Matteson, Lynette Kono, William Dendle, & Jeffey M. Melrose. 1981. Moloka'i Data Book: Community Values and Energy Development. Honolulu: Urban and Regional Planning Program, University of Hawai'i.

In 1982, the Alu Like Moloka'i/Lana'i Island Center funded a study called, "Small Business and Cottage Industry Opportunities On Moloka'i and Lana'i."[7] It recommended a twofold economic development strategy for Moloka'i: (1) Maximum economically feasible development for agriculture, small-boat offshore fisheries and, once proven, brackish and saltwater aquaculture; and (2) Development which reflects implementation of approved plans for tourism and communities for retirees, communities to O'ahu, and second-home buyers. The strategy sought to reflect the community's preference for activities which are consistent with Moloka'i's rural character, development potentials of the various activities, the need for economic growth to achieve full employment, and the desirability of a diversified and balanced economy.

A 1982 study of traditional Hawaiian land use investigated the feasibility of locating a small traditional Hawaiian community on conservation lands in the remote Pelekunu Valley on Moloka'i.[8] The elements of the project included: self-sufficiency, use of low technology, low energy, labor intensive, self built structures, diversified subsistence farming and fishing, and the maintenance of Hawaiian culture. The study assessed potential residents' skills and preferred lifestyles with housing and community facility requirements including trails, agricultural fields, irrigation ditches, meeting halls, canoe houses and guest houses. Emphasis was on planning for a small community in a remote area by utilizing individual family housing structures, site analysis, agricultural feasibility, village siting and configuration, outhouses and irrigation fields design, and cost estimates.

A 1983 study for Hawaiian Homelands at Kalama'ula on Moloka'i introduced the concept of "Residential Subsistence" emphasizing residential use of Hawaiian homestead parcels, while at the same time encouraging and integrating "backyard" agriculture.[9] In that same year, another study, An Economic Development Strategy and Implementation Program for Moloka'i recommended support for developing fisheries on Moloka'i. It concluded:

> *"Fishing on Moloka'i continues to play a strong part in the Hawaiian culture; it suits the rural lifestyle of the Island; and it accepted as an appropriate type of resource use for economic development. For generations, the Native Hawaiian population survived largely on food harvested from the sea. The wide reef that fringes the southern shore of Moloka'i supported extensive*

---

7 A. Lono Lyman, Inc. 1982. "Small business and Cottage Industry Opportunities On Moloka'i and Lana'i. Kaunakakai: Alu Like Inc. Moloka'i Lana'i Island Center.

8 Anderson, Roger, Nick Huddleston and Masa Yokota. December 21, 1982. A Feasibility Study For The Implementation of the Concept of Traditional Hawaiian Land Use in Pelekunu Valley, Moloka'i. Honolulu: University of Hawai'i School of Architecture.

9 Department of Hawaiian Home Lands. 1983. Kalama'ula Development Plan. Honolulu: DHHL.

subsistence fisheries, and shoreline fishponds were used to age and fatten several species". [10]

The study pointed out that a lack of jobs and ready cash for groceries forces many Moloka'i families to depend on the ocean for subsistence. It also stated that many Moloka'i residents own fishing gear or boats, and the majority of families have ready access to fresh seafood through family members, relatives and friends.

In 1987 the last pineapple company closed its operations. In that same year, a tuberculosis epidemic led to the decision to eradicate all the cattle on Moloka'i. Moloka'i General Hospital phased down its operations, stopping all maternity deliveries. Moloka'i's unemployment rate was three times the state's average at nearly 20%. Many small businesses shut down. In response to this economic crisis, the State of Hawai'i opened the Moloka'i office of the Department of Business and Economic Development and Tourism (DBED) in 1987 and set up the Moloka'i Interdepartmental Task Force.

The Task force noted that "increased consideration should be given to alternate approaches supportive of subsistence activity as an integral, preferred way of life for many Moloka'i residents." A special loan program was set up to stimulate small business. Agriculture, fisheries, and culture became priority areas. The Moloka'i DBED tried to enhance subsistence activity on Moloka'i while introducing mainstream economic development programs such as industrial parks, a slaughter house, and an ice house.

To stimulate the fishpond industry, a model project was initiated in 1989 at 'Ualapu'e fishpond in Mana'e by Maui County and the State of Hawai'i. In 1990, the Moloka'i Office of the Department of Business and Economic Development sponsored a development plan for the 'Ualapu'e ahupua'a.[11] The plan was designed to protect the vital water resources of the fishpond by proposing a management plan for the resources of the entire ahupua'a.

In December 1991, the non-profit Moloka'i-based group, Hui O Kuapa, conducted the "Moloka'i Finfish Hatchery: Feasibility Study." It developed a plan for establishing a finfish hatchery. In 1991 the University of Arizona started a demonstration project for the cultivation of seaweed in a fishpond which is managed by a Native Hawaiian land trust. Based upon its success, the program has now expanded into commercial production and is providing training to interested community members.

---

[10] Decision Analysts Hawai'i, Inc. 1985. An Economic Development Strategy and Implementation Program for Moloka'i.

[11] Araki Wyban, Carol, ed. September 1990. Master Plan for 'Ualapu'e Ahupua'a: Blending Tradition & Technology. Kaunakakai: State of Hawai'i Department of Business and Economic Development, Molokai'i Office.

In May 1993, the Governor's Task Force On Moloka'i Fishpond Restoration identified 74 fishponds ranging in size from less than an acre to 73 acres with the majority located on the southeast side. Moreover, it found that the island of Moloka'i, with a protected reef extending over 14,000 acres is blessed with a very high percentage of restorable fishponds. The Task Force recommended that the State provide the money needed to establish the fish hatchery as proposed by Hui O Kuapa. The Task Force also recommended that the state appropriate additional funds for the repair of 10 fishpond walls, community training and research, and a Moloka'i Fishpond Commission to implement a long-term plan for the restoration and revitalization of the fishponds on Moloka'i.[12]

In Fall 1993, the Aquaculture Development Program of the Department of Land and Natural Resources conducted consultant studies to obtain conservation district use applications (CDUA) for the restoration of the Honouliwai fishtrap and the Kahinapōhaku fishpond. It also pursued studies for a master conservation district use application (MCDUA) for several additional fishponds.[13]

A fishermen's cooperative constructed an Ice House which was completed at the end of 1993. The cooperative is made up of 40 fishermen who produce an estimated 60 - 70% the island's commercial fish landings.

The Governor's Moloka'i Subsistence Task Force was set up in response to concerns raised by a group of hunters, originally organized as Ahupua'a O Kaluakoi, and later calling themselves Pono. In 1990, after receiving word that the Moloka'i Ranch was in the process of herding wild deer into a 3,000 acre pen, the Moloka'i subsistence hunters picketed Moloka'i Ranch. The hunters organized, and for several years, worked to stop commercial use of the deer by Moloka'i Ranch and recreational use of the deer by the State of Hawai'i. They also worked with the Nature Conservancy to stop killing feral pigs, goats, and deer with cabled snares which left the animals to rot. They took their concerns to Governor John Waihee who, after a year of negotiations, decided to form a task force to review all subsistence activities on Moloka'i, including hunting, and to make recommendations for policies to protect and enhance subsistence on the island.

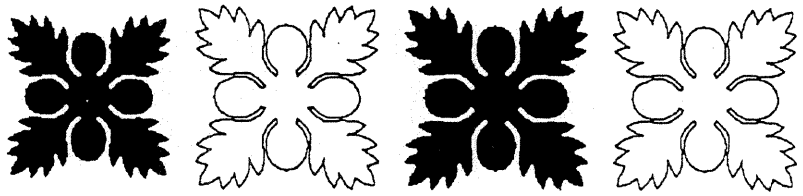
This study was organized by a team of university consultants, but the substantive information - the data, indigenous knowledge, and policy

---

[12] Araki Wyban, Carol, ed. May 1993. Report of the Governor's Task Force on Moloka'i Fishpond Restoration. Kaunakakai: State of Hawai'i, Department of Business, Economic Development and Tourism, Moloka'i Office. Araki Wyban, Carol, ed. September 6, 1991. Proceedings of the Governor's Moloka'i Fishpond Restoration Workshop: Preservation of Our Fishpond Heritage Through Productive Use. Kaunakakai: State of Hawai'i.

[13] Department of Urban and Regional Planning. December 1993. Moloka'i Fishpond Master CDUA Project. Honolulu: University of Hawai'i.

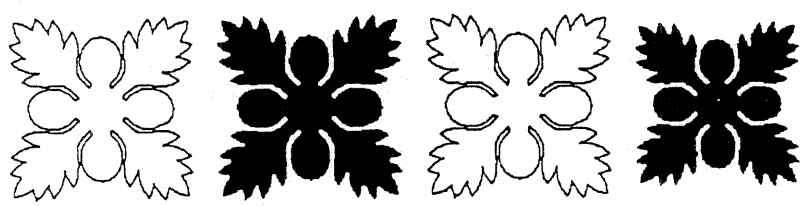
recommendations - originated from and belongs to the community participants. The study is an expression of the current generation of Moloka'i subsistence practitioners about their beliefs, customs, practices, rights and responsibilities to Moloka'i and the future generations who she will support.



2. Studies of Contemporary Subsistence in Hawai'i

The soil is a redeeming factor in the life of any race, and our plan for the rehabilitation of the Hawaiians is futile unless the question of returning to mother earth takes precedence to all other considerations in such a plan. . . . In so far as experience has proven and as much as science has revealed, physical health and vigor, the power to propagate the race, eradication of diseases, the restoration of normal domestic living conditions, the elimination of poverty and pauperism, the establishment of business relationship with the business world, the deepened appreciation of the soil and of the material wealth, - all of these benefits come, not by the fashionable [sic] life of this century, but, by the intimate acquaintance with the life and the possibilities of the soil.

Aha Hui Pu'uhonua O Na Hawai'i (Hawaiian Protective Association), 1920
Memorial to Congress in support of the passage of the Hawaiian Homes Commission Act.



Review of Studies of Subsistence in Hawai'i

Studies of contemporary subsistence in Hawai'i have focused on rural communities. These studies have documented subsistence practices, formulated conceptual plans and developed program proposals.[14] Given that subsistence is rooted in traditional Hawaiian custom and practice, many of the studies have been initiated by Hawaiians in order to perpetuate their traditional subsistence lifestyle within an ahupua'a; to regain their rights of access to resources; or to control a land base.

The first studies of contemporary subsistence in Hawai'i were sponsored in the summers of 1970, 1971, and 1972 on Moloka'i, and on the island of Hawai'i in the rural communities of Puna and North Kohala.[15] The University of Hawai'i departments of Anthropology, and Geography with the School of Public Health formed a Committee of Human Ecology to document subsistence resources and lifestyles in these rural communities. The Moloka'i study is discussed in the previous section.

In Puna, the team documented how a traditional lifestyle had continued because macroeconomic activity in the district had been impeded due to geographic and/or social barriers. The study concluded that in rural areas residents still carry on the traditions of their ancestors, especially the passing down of ancient tales, medicinal practices, and recreational activities. The team investigated how Puna residents perceived, evaluated, and adjusted to the everpresent volcanic activity. Regarding subsistence, the study focused on the importance of pig hunting in the Kalapana-Kaimu Hawaiian community. It concluded that much of the pig hunting was related indirectly to subsistence through the medium of recreation. Many of the young men enjoyed hunting for sport, and channeled a lot of the meat into the community.

In North Kohala, the team investigated subsistence hunting and fishing, environmental cognition, and the rural patterns of reciprocity, settlement and environment. In relation to farming, they found that elevation, sunlight exposure, water use, full time and part time employment, and size of land holding influenced the extent of taro farming in Waipio Valley. Seventeen percent of the community

---

[14] This review focusses on studies of subsistence which have policy planning and programmatic value and does not include other archaeological and anthropological research which is more academic oriented.

[15] Lewis, Henry, ed. 1970. Moloka'i Studies: Preliminary Research In Human Ecology. Honolulu: Department of Anthropology, University of Hawai'i. Bostwick, Burdette and Brian Murton. 1971. Puna Studies: Preliminary Research in Human Ecology. Honolulu: Department of Anthropology, University of Hawai'i. Armstrong, Warwick and Henry Lewis. 1972. North Kohala Studies: Preliminary Research in Human Ecology. Honolulu: Social Science Research Institute, University of Hawai'i.

were hunters. They mostly hunted pigs, however, sheep and birds were also sought. The meat was smoked or made into sausage for use by their immediate family as well as the extended family and neighbors. Reasons for hunting included supplementing their diets and saving money by not having to buy meat. Young pigs captured alive were reared and then consumed, given away, or sold when they became large enough. Kinship relations and reciprocity were important cultural factors for both taro cultivation and hunting.

In 1982, the Puna Hui 'Ohana, an umbrella organization made up of Puna Hawaiian community groups, was contracted by the U.S. Department of Energy to conduct a survey about the impact of geothermal energy development on the Hawaiian community.[16] Of particular interest in assessing the cultural impact of geothermal development was the extent to which the Puna Hawaiians engaged in traditional subsistence activities which could conflict with geothermal use of the land. The study showed a high frequency of subsistence activities in the district - fishing 66%, shoreline collecting 62%, food gathering 59%, gathering medicinal plants 48%, gathering maile 38%, and hunting 38%. The study noted that the greatest potential for conflict between Hawaiian culture and the land-intensive geothermal industry might be over conflicting land uses. Many of the traditional cultural activities required access to fairly large areas of land that were "undeveloped" in the Western sense, but highly productive of things necessary for the practices of traditional Hawaiian culture.

A study conducted in 1983 proposed a policy of "agricultural subsistence" for Ka'u Hawai'i. It recommended that enough upland area be made available to sustain homesteader subsistence at Kama'oa-Pu'ueo in Ka'u, Hawai'i.[17]

In 1984, a plan was developed for the residents of Ho'opuloa who were displaced by the lava flow of April 18, 1926. In 1984, they were living in Miloli'i fishing village located a quarter mile away from Ho'opuloa. It was an example of how government support and approval can be obtained for a "special subzone" in the Conservation District. The plan included residential and recreational features (housing, trails, canoe hālau, a boat landing, a community park and visitor center/ museum/ pavilion); infrastructure facilities (telephones, catchment of rain water, and septic tanks); emergency services (training of selected residents in fire, police, emergency medical, and water safety); archaeological and historic sites (survey and restoration); and economic development programs (small businesses).[18] Eventually the Department of Land and Natural Resources awarded leases in Miloli'i. A self -help housing program of the Hawaii County Economic Opportunity Council also

---

16 Puna Hui 'Ohana. 1982. Assessment of Geothermal Development Impact on Aboriginal Hawaiians. Pahoa: Puna Hui 'Ohana.

17 Department of Hawaiian Home Lands. 1983. Kama'oa Pu'ueo Management Plan. Honolulu: DHHL.

18 Pa'a Pono Miloli'i. September 1984. Miloli'i- Ho'opuloa Community Development Plan.

ensured a degree of stability for the residents of this traditional Hawaiian fishing village.

A 1985 report responded to a legislative request to study the feasibility of setting aside state lands to permit certain residents to practice a subsistence lifestyle.[19] It surveyed ten communities representative of contemporary Hawaiian subsistence lifestyles on the islands of Hawai'i, Maui, Moloka'i, and O'ahu. Survey forms were developed to gather information on the natural settings; land tenure; and historical, legal and regulatory issues. Site visits and interviews were conducted at the community and household levels regarding the physical and economic character of the settlements; the socio-cultural-demographic make-up of the communities; and on the motivation of individual residents to engage in subsistence practices. In the same year the first statewide conference on "contemporary subsistence lifestyles in Hawai'i" was held at the Kamehameha Schools Campus. Participants accepted the report and recommended state action to recognize Hawaiian subsistence; to improve regulations affecting subsistence; to explore ways to make state lands available for subsistence; to improve interagency coordination to facilitate subsistence; and to hold meetings with subsistence practitioners and state agency representatives.[20] A legislative resolution called for continuation of subsistence research in Hawai'i.[21]

A 1987 study of King's Landing on the Big Island provided a community vision for a management plan of a Hawaiian Homestead.[22] It described the profile of the existing Hawaiian community and the site conditions including settlement patterns, land use management, subsistence practices and infrastructures. The subsistence program proposed in this study was consistent with the Department of Hawaiian Home Lands (DHHL) policy of "acceleration of awards" on raw land. It proposed to meet the Hawaiian subsistence and self-sufficiency needs of 16 families, or 60 individuals. The report proposed the "Kanaka Code" to enable DHHL beneficiaries to improve their leases incrementally in 4 years: starting with a dry-hole toilet, a foundation floor, a temporary structure, and a roof catchment and gradually building toward an enclosed house. Management proposals dealt with

---

[19]Department of Urban and Regional Planning. March 1985. Contemporary Subsistence Lifestyles in Hawai'i: Implications for State Policy -Part I Community Perspectives. Honolulu: University of Hawai'i.

[20] Department of Urban and Regional Planning. March 1985. Contemporary Subsistence Lifestyles in Hawai'i: Implications for State Policy -Part II Conference Proceedings. Honolulu: University of Hawai'i.

[21] Thirteen Legislature State of Hawai'i. 1985. Senate Concurrent Resolution No. 138 on Subsistence Lifestyles: Continuing the Efforts of the Study on the Feasibility of Setting Aside State Lands for the Practice of Subsistence Lifestyles in Hawai'i and Fulfilling the Intent of H.R. 304, H.D.1, 1984. Honolulu: State of Hawai'i.

[22]Malama Ka 'Aina Hana Ka 'Aina Community Association. 1987. Subsistence Homesteads: A Community Management Plan for Department of Hawaiian Home Lands, Keaukaha Tract II. Honolulu: Palapala Ink.

ocean and coastal resources, soil, vegetation and cultural resources. Permitted and non-permitted activities, project guidelines and DHHL enforcement measures and governance were proposed. The report exemplified how a Subsistence Homesteading Program, could serve as one of the Alternative Development Models (ADMs), and be incorporated into DHHL operations. The ADMs were originally proposed by a Federal Task Force on Hawaiian Home Lands as a way to broaden the range of opportunities for beneficiaries to receive their entitlements. The ADMs envisioned providing homestead leases expeditiously to beneficiaries, even if only on: (a) underdeveloped land; (b) minimally improved agricultural lots with a rough graded road and no water; (c) cluster agricultural developments; or (d) residential lots with no housing provided.

In February 1993 a report by the Ka 'Ohana O Kahikinui proposed a concept plan consistent with the ADMs approach for the 22,800 acres constituting the ahupua'a of Kahikinui in South Maui.[23] The plan envisioned that the ahupua'a would be divided horizontally in ecological zones for various uses including: forest reserve in the upper mauka portion, reforestation and horticulture in areas below the forest reserve, pastoral lots below that and above the highway, a buffer zone to screen the lots from the highway, self-sufficiency lots makai of the highway, and a cultural management zone along the coast and the shoreline where the ancient Hawaiian sites are located. An area for a community center was reserved in the center and makai portion of the ahupua'a. The 'Ohana was looking at affordable and appropriate technologies for homesteaders using alternative solar energy and alternative water and sanitation systems to attain an environmentally sustainable and culturally appropriate lifestyle. This plan provides an option to Hawaiians to choose their own lifestyle, and to be self-sufficient by allowing homesteaders to access mauka and makai resources in an arid zone.[24]

In November of 1993, The Hawaiian Homes Commission approved two new programs, called Kuleana and Laulima, to expedite the awarding of homestead lands to its beneficiaries.[25] These programs called for shared responsibility between the department and the beneficiaries in paying for infrastructure thereby facilitating access and land leases. The difference between the two provisions was that the Kuleana program would grant immediate raw land leases and provide a base coarse

---

[23] Ka 'Ohana O Kahikinui. February 22, 1993. A Conceptual Community land Use Plan for the Ahupua'a of Kahikinui. Maui.

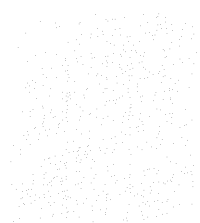
[24] A land use plan for Kahikinui proposed by DHHL in October 1993, differed from the Ka 'Ohana O Kahikinui in the location and acreage of the homestead use and in the addition of an area for general leases. Handerson, Ben, Administrator, Planning Office. October 19, 1993. "Approval of Proposed Land Use Plan for Kahikinui, Maui". Memo to the Hawaiian Home Commission. Honolulu: Department of Hawaiian Home Lands.

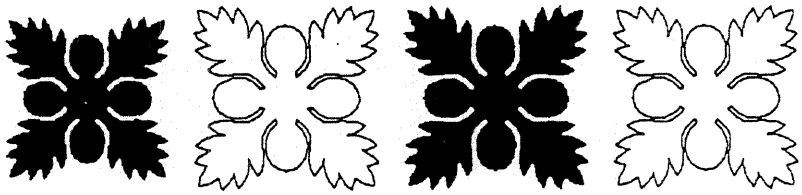
[25] Soon, Ray, Administrator, Land Management Division. November 23, 1993. "Conceptual Approval to the Kupuna Rental, Kuleana, and Laulima Programs and Authorization to Proceed". Memo to the Hawaiian Home Commission. Honolulu: Department of Hawaiian Home Lands.

road to beneficiaries who will individually build infrastructures at their own pace and expense. The Laulima program would require up-front financial commitment by the beneficiaries to participate in an improvement district project in order to access a raw land lease.

Cultural Advocacy Action Network Developing Options or C.A.N. D.O., the consultants for this report, conducted a study for the Hawai'i Department of Health, "Native Hawaiian and Local Cultural Assessment Project, Phase I, Problems/Assets Identification" in 1992-1993. The study identified and described the key aspects of traditional Hawaiian subsistence, cultural, and spiritual customs, beliefs and practices and the key rural areas where subsistence is an essential part of the lifestyle of the community.

It is important for rural communities to identify and document the nature and extent of subsistence activities in their districts and the natural resources upon which those activities depend. Identifying and describing a base line assessment of the resources which are essential for subsistence livelihoods to persist, can lay the foundation for the formulation of policies and regulations to protect natural resources. It can also enable the development of educational materials to gain broader recognition for subsistence values, practices, and customs and the significance of subsistence in the overall economy.



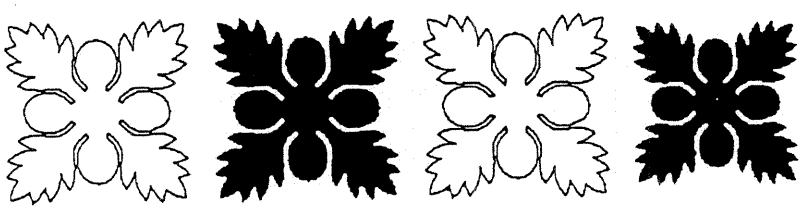


3. Scope of the Study

How important is subsistence fishing, hunting, and gathering to families on Moloka'i?
How much of the family food comes from subsistence?
What problems are making it harder to do subsistence fishing, hunting and farming on Moloka'i?
What can be done to make it better?

These are some of the questions that will be asked in a phone survey of Moloka'i families that will be carried out from June 7 through June 20, 1993 . . . This will not be like other surveys where participants don't get to hear the results or the report just sits on a shelf collecting dust . . . The report will be a plan for action by the Governor and the 1994 Legislature.

Governor's Moloka'i Subsistence Task Force flyer and press release, June 1993.



Background

Moloka'i's rural lifestyle include activities which supplement the general income of a family. These subsistence activities include hunting, fishing, gardening, trading and gathering.

The Governor's Interdepartmental Task Force in 1987 recommended "increased consideration should be given to alternate approaches supportive of subsistence activity. . . " In 1993, the Governor decided to form the Moloka'i Subsistence Task Force to consist of members from State agencies and from communities on Moloka'i. The scope of work for the Task Force was defined as follows:

1. Provide a Moloka'i subsistence plan to include:

    - List of subsistence activities on Moloka'i.
    - Amount of people engaged in subsistence activities.
    - Profile of the people (sex, age, employment, education, etc.)
    - Frequency of the subsistence activities.
    - Percent activity supplements income.
    - List of existing laws governing subsistence activities.
    - Problems identified by the Moloka'i community.
    - Recommended solutions based on input from the Moloka'i community and Task Force.

2. Methods to develop the report were to include:

    - Community mapping
    - Surveys and interviews
    - Focus group meetings
    - Research of existing data

Goals, Objectives, Research Activities, and Final Product

The study was designed to provide information on numerous aspects of subsistence on Moloka'i. The purpose of the research was to provide empirical data for developing recommendations for resources and subsistence lifestyles. The investigators worked closely with the Moloka'i Subsistence Task Force to formulate questions that were used in the community survey and the focus groups. The Task Force reviewed the study results and developed program and policy recommendations. The University of Hawai'i investigators served in a technical capacity of using information shared by subsistence practitioners and applying it to scientifically appropriate methods to acquire data on an island-wide basis. A major design objective was to draw samples that were representative of, and could be

generalized to, all Moloka'i residents. Generally speaking, the investigators were interested in acquiring information on subsistence to understand its prevalence, types, methods, uses, locations of activities, and problems.

The investigators employed a variety of data collection techniques in order to gain a deep understanding of subsistence on Moloka'i. Quantitative data, derived from the community survey, provided a broad profile of residential behaviors and attitudes regarding subsistence. Qualitative data derived through focus groups and mapping, provided detailed descriptive information regarding subsistence beliefs, practices, general locations, and critical issues. This multi-method approach provided data across a quantitative-qualitative continuum which was useful for cross-referencing results and identifying variations.

Given the original scope of work, the consultant team, together with the Moloka'i Subsistence Task Force, defined the goal of the Moloka'i Subsistence Study as the identification, protection restoration, and enhancement of subsistence activity on Moloka'i.

The objectives were defined as:

1. Examine subsistence activity on Moloka'i and make appropriate recommendations

2. Gather community input and data related to subsistence activities:

    - list of subsistence activities
    - amount of people engaged in subsistence activities
    - profile of people engaged in subsistence
    - frequency of the subsistence activities
    - percent activity supplements income
    - identify natural resources used in subsistence activities

3. List and review existing laws, administrative rules, and regulations relating to subsistence and to the natural resources used in subsistence.

4. Describe problems identified by the Moloka'i community

5. Recommend solutions based on input from the Moloka'i community and task force

Subsistence problems identified for Task Force discussion were:

- Misuse
- Commercial use
- Environmental use

- Access
- Ignorance of laws

The following research activities were identified:

- Island-wide survey

- Focus groups by district:

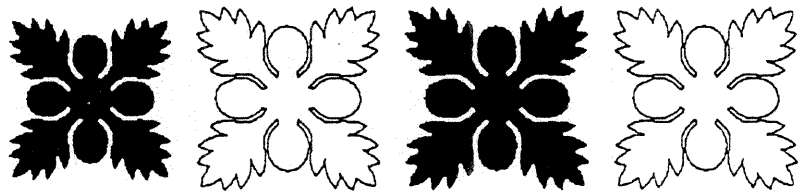
    - Ho'olehua
    - Maunaloa / Kaluako'i
    - Kaunakakai through Makakupa'ia
    - Makakupa'ia to Hālawa
    - Hawaiian Homelands Associations (Ho'olehua, Kalama'ula, Kapa'akea, Oneali'i)[26]

- Community mapping
- Literature review of subsistence activities, traditional customs and practices relating to stewardship over natural resources.

The final product was to be a technical report containing:

- executive summary
- review of relevant literature
- results and discussion of data from survey
- results and discussion of data from focus groups
- community map of resource areas and activities
- policy/program recommendations

[26] Originally, the Task Force proposed having focus groups in Kalama'ula and in Kalaupapa. Later it was decided to combine Kalama'ula with the meeting of Hawaiian homesteaders. The consultants attempted to set up a focus group with the patients in Kalaupapa but were unable to arrange it with the Kalaupapa Patients Council.

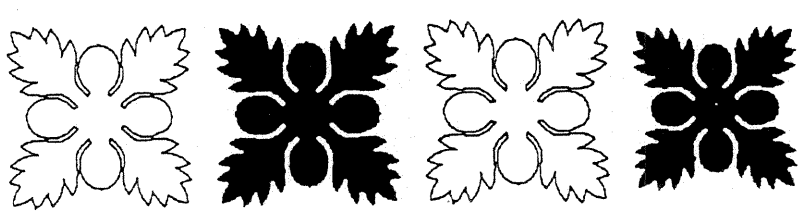


4. Random Sample Survey

'A'ole 'ike mau i ka hale ku'ai. Kahi o Moloka'i Nei, 'a'ole pilikia. Hele hulihuli ma kahakai, ka pipipi, papa'i, ohiki.

No constant visits to the store. This part of Moloka'i, here, no trouble. Go searching at the beach . . . pipipi, papa'i crab, ohiki.

Sarah Wahineka'apuni Naoo, kupuna of Honouliwai, interviewed by Mary Kawena Pukui in 1961.



Telephone Survey Method

The investigators sought to obtain a representative sample of residents from the island of Moloka'i. A primary goal was to acquire a randomly selected sample of respondents using the most expedient and cost-effective method. With this goal in mind, a decision was made to conduct a telephone survey using the White Pages Directory for Moloka'i. According to GTE Hawaiian Tel, there were 2,436 published household telephone numbers.[27] Because the Directory does not account for unpublished telephone numbers or residents without telephones, the investigators sought corroborating data to affirm their decision to use this source as a basis for drawing the sample. According to the 1990 United States Census, there were 6,717 residents living in 2,088 households on Moloka'i. In June of 1993, there were also 2,757 post office box numbers on Moloka'i. Given that these figures approximated the number of listed telephone numbers, the investigators believed that the Directory provided a representative listing of island households. Through discussions with several Moloka'i representatives, it was also believed that there was no correlation between residents with unlisted numbers and greater or lesser amounts of subsistence, although these representatives speculated that residents who did not have telephones may have subsisted to a greater degree.[28]

The investigators sought a sample size of 250. This number would provide sufficient power and allow for the types of multivariate data analysis required to address the study goals. In order to obtain this number, the investigators randomly selected a place in the beginning of the Directory listings and selected every fifth name and number (business and government listings were excluded). This brought the total number of potential respondents to 396. The final list was divided up alphabetically and presented to the 6 interviewers.

In order to enhance response rates, press releases describing the study were sent to Moloka'i newspapers for publication, notices were posted on community bulletin boards, and all elementary school and high school students on Moloka'i were sent home with flyers (totaling 1,659 students).

---

[27] Personal communication, Evon Miranda, GTE Hawaiian Tel, June 1, 1993.

[28] Moloka'i residents without telephones were thought to be less dependent on modern technology either by choice, lack of monetary resources to afford such conveniences, or because they resided in areas far removed from infrastructure. Each of these factors implies that families or individuals that fall into these categories are more inclined to rely on subsistence.

The interviews began the evening of June 8th and were completed within 8 working evenings.[29] All interviews were conducted under the supervision of the on-site coordinator and one co-principal investigator at the office of the Moloka'i Department of Health in Kaunakakai. A total of 256 interviews were conducted. Among the residents selected for the sample who were contacted, 32 declined to be interviewed. The response rate based on residents contacted was 89%.[30]

Questionnaire Design

The investigators developed a draft questionnaire based on the study goals and objectives, a review of previous related studies, and information derived from discussions during the first two Moloka'i Subsistence Task Force meetings. The third meeting of the Task Force focused entirely on reviewing every question/item of the questionnaire and allowed participants to provide feedback and suggestions to the investigators. This type of review process, which relied on input from local fishermen, hunters, and gatherers, was critical in terms of designing a questionnaire that was relevant, comprehensive, and culturally appropriate.

The questionnaire was comprised of several sections related to subsistence. It was important that all respondents had a shared understanding of the concept of subsistence before engaging in an interview. The interview began with a reading of a definition of subsistence that was developed by the Governor's Task Force On Moloka'i Fishpond Restoration as defined at the beginning of this report. The definition read:

> *"The customary and traditional uses by Moloka'i residents of wild and cultivated renewable resources for direct personal or family consumption as food, shelter, fuel, clothing, tools, transportation, culture, religion, and medicine; for barter, or sharing, for personal or family consumption; and for customary trade".*

The questionnaire was designed to assess or measure: 1) the number of household members engaged in each type of subsistence activity, 2) the importance of subsistence to one's family (e.g., percent of family's food that comes from subsistence), 3) the types of non-consumptive uses of subsistence resources (e.g., sharing, exchange), 4) the cultural significance of subsistence, 5) the types of issues/ problems that impede subsistence on Moloka'i.

---

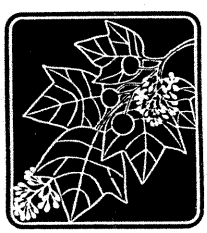
[29] The interview period ended on June 21. No interviews were conducted on Fridays or weekends in order to avoid excluding individuals and families who were involved in subsistence and therefore not available to be interviewed. All interviews were conducted between the hours of 5:30 and 8:30 pm.

[30] Interviewers made 3 attempts at contacting individuals before removing them from the list. A total of 26 numbers resulted in no answer. All residents who consented to the interview were guaranteed confidentiality and anonymity.

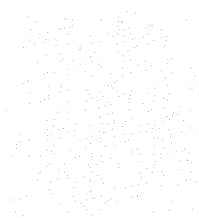
Each of the major subsistence areas (fishing, hunting, ocean gathering, land gathering, and stream gathering) were examined at greater depth to develop a profile of these activities. The dimensions of each activity that were examined included: frequency, season, place, species/type of resource, and method used.

On-Site Research Team

In order to facilitate the research process and on-site organization, 2 Moloka'i-based coordinators were hired to advertise the study, select and hire interviewers, locate a site to conduct interviews, take notes, etc.[31] A total of 6 Moloka'i residents were hired and trained to conduct the interviews. The interviewers underwent several hours of study orientation and interviewer training.



[31] The on-site coordinators were Colette Machado and Malia Akutagawa. The interviewers were Jeremy Bennett, Jay-R Kaawa, Elizabeth Lawrence, Leonida Molina, Gandharva Ross, and Chiemi Talon. Most of the interviewers were either college students who were home on Moloka`i for the summer or high school graduates preparing to leave for college. Leonida Molina was an Ilocano-speaking interviewer.



5. Survey Results

Aia no i'a malalo, aia no i'a maluna . . .There is food below and there is food above. This was an old Hawaiian proverb. In the old days Wailua was like this. There were plenty taro patches . . . there was plenty hihiwai, o'opu, and opae in the streams . . . there was plenty in the ocean. The old folks always said, Hala no ia lā . . . and so passed the days. They meant that life was pleasant and the days passed easily.

Daniel Napela Naki, kupuna of Wailua who was interviewed by Mary Kawena Pukui in 1961.

DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

Demographic data was collected on each respondent in order to discern the representativeness of the sample and to conduct sub-group comparisons on aspects of subsistence.[32] The average age of respondents was 45 years. There was a balanced representation of men (49%) and women (51%) in the sample. This closely resembles the gender balance in the overall population of Moloka'i where 51% are male and 49% are female as indicated in the 1990 U.S. Census.[33]

In terms of ethnicity, the breakdown in the sample survey was close to the breakdown in the overall population, although Hawaiians were slightly underrepresented and Caucasians were slightly over represented. A comparison of Moloka'i's population by ethnicity according to the 1990 census and the ethnic breakdown of the respondents in the sample survey is shown here. Since more Hawaiians practice subsistence than Caucasians, the results of the survey with regard to subsistence values and practices is probably more conservative than it would have been if we had the same percentages of Hawaiians and Caucasians as are in the total population.

Ethnicity On Moloka'i (1990 Census)		Ethnicity Of Survey Respondents	
Hawaiians	49%	Hawaiians	42%
Caucasians	18%	Caucasians	23%
Filipinos	21%	Filipinos	19%
Japanese	9%	Japanese	8%

The districts on Moloka'i with the highest number of respondents were also those districts with the greatest number of residents as the table below shows. However, East End and Ho'olehua/Kualapu'u are slightly underrepresented in the survey. Since these districts are known to have more subsistence practitioners than Kaunakakai, the results of the survey is probably more conservative with regard to subsistence values and practices than would have been if the percentages corresponded exactly to the distribution of residents in the districts of the island.

Most respondents were born on a Hawaiian island other than Moloka'i (34%) while equal numbers were born on Moloka'i and the American continent (26%). Most, however, grew-up (first 18 years) on Moloka'i (38%), followed by another Hawaiian Island (26%), and the American continent (24%). On the average, respondents lived in Hawai'i for 33 years, and on Moloka'i for 24 years.

---

[32] See Appendix II Demographic Table.

[33] U.S. Bureau of the Census. 1991. 1990 Census of Population - Social and Economic Characteristics of Hawai'i. Washington D.C.: U.S. Department of Commerce.

Population by District (1990 Census)		Respondents By District	
Kaunakakai	40%	Kaunakakai	45%
East End (Mana'e)	26%	East End (Mana'e)	20%
Ho'olehua/Kualapu'u	25%	Ho'olehua/Kualapu'u	13%

The largest number of respondents were high school graduates (57%), and 32% graduated from college or graduate school. Islandwide, according to the 1990 U.S. Census, 65.2% of Moloka'i residents have high school level education and 12% have graduated from college. Among the respondents, the average number of people living in a household was 3.6; the U.S. census indicates that the average number of people living in a household on Moloka'i in 1990 was 3.1. Thirty percent of the respondents reported making less than $10,000 annually and 46% of the respondents made less than $20,000. For Moloka'i, the per capita median income in 1990 was $9,497.

IMPORTANCE AND USES OF SUBSISTENCE

The first set of questions in the interview addressed a variety of issues related to subsistence activities. Respondents were asked to estimate the number of times per month other Moloka'i residents give their family food like fish, meat, or limu that they have caught, gathered, or grown themselves. The average number reported was 4.3 times per month. This averages to approximately once per week.

The overall importance of subsistence to families on Moloka'i was assessed by asking respondents to rate how important subsistence was on a 4-point scale (Table I). The highest number of respondents reported that subsistence was "very important" to their family. The average or mean score was 1.9 which falls within the "important" range.

TABLE I

Overall Importance of Subsistence to Family

	Number	Percent	S.D.
Very Important	123	51	
Somewhat Important	59	25	M = 1.9*
Somewhat Unimportant	27	11	S.D. = 1.08
Not at all Important	32	13	

*M= mean score

In order to assess the importance of subsistence as a source of food for Moloka'i families, respondents were asked to estimate the total percentage of their food that comes from various subsistence activities (e.g., fishing, hunting, gathering, raising animals, cultivation). The average or mean score was 28%. Twenty-five percent of the respondents (54) stated that 50% or more of their food came from subsistence activities, and 2 respondents reported that 100 percent of their food was obtained from subsistence. Hawaiians, as a group, reported that on the average 38% of their food was derived from subsistence.

Other than food, respondents were asked to describe ways in which resources derived from subsistence were also used (Table II). "Sharing and gift-giving" was the most common response. The second highest response was "exchange and trade." The use of resources derived from subsistence for sale or commercial purposes was reported by a relatively small number of respondents.

TABLE II

Non-Consumption Uses of Subsistence Resources

	Number	Percent*
Sharing/Gift-Giving	200	81
Exchange/Trade	117	47
Restock	60	24
Sale	45	18

* Percent exceeds 100 due to multiple responses

The social, cultural, and health benefits of subsistence were also examined. Respondents were asked to assess whether they personally benefited from a list of items/themes related to subsistence (Table III). The areas that received the highest number of positive responses were "exercise/health/diet", "family togetherness", and "recreation." It is important to note that all of the items received a substantial number of responses indicating that subsistence had multiple benefits to respondents.

TABLE III

Benefits of Subsistence

	Number	Percent*
Exercise/Health/Diet	190	77
Family Togetherness	189	76
Recreation	182	73
Leis, Decorations, & Crafts	173	70
Carry on the Culture	170	69
Education	164	66
Spiritual Well-Being /Religion	127	51
Medicine	125	50

* Percent exceeds 100 due to multiple responses

To understand the role of subsistence in relation to social and cultural events that involve extended family and community members, respondents were asked whether resources derived from subsistence were used for special occasions (Table IV). Seventy-two percent (175) stated that they used subsistence resources for special occasions. Birthdays and luaus were the special occasions respondents collected resources for most often.

TABLE IV

Special Occasions Using Subsistence Resources

	Number	Percent*
Birthdays	122	55
Luau (may be inclusive of other functions)	120	54
Graduations	90	41
Holiday celebrations	76	34
Reunions	70	32
Weddings	62	28
Anniversary parties	50	23
Funerals	43	19
Other	35	16
One Year Anniversary of Death	28	13
Blessing Something Newly Built	27	13

* Percent exceeds 100 due to multiple responses

Types of Subsistence

The second part of the questionnaire focused specifically on the different types of subsistence activities. Each activity (e.g., fishing, hunting) was examined through a series of related questions. For example, for each subsistence activity, respondents were asked to identify general location, frequency, seasons, species, and methods used.

Fishing

A majority of respondents themselves stated that they fished (Table V).[34] The areas on Moloka'i where respondents fished the most were Makakupa'ia to Honouliwai, Honouliwai to Hālawa, and Kaunakakai to Makakupa'ia (Map 1. a page 65).

Respondents were asked to calculate the number of days in the past year they went fishing. This number was calculated from monthly estimates (adjusted for seasonal variations) and the one-year period was defined as the twelve months prior to when the interview occurred. On the average, respondents went fishing 45 days in the past year. Eighty-four percent (114) stated that the number of days they reported represented the typical number of days they fished every year. Sixteen percent (21) stated that it was an atypical year in terms of the number of days they fished.

Fifty-one percent of the respondents (49) stated that they fished throughout the year, while 41% (49) reported that they did most of their fishing during the summer.

---

[34] A previous question in the survey asked if respondent or family members engaged in various subsistence activities. In this section of the questionnaire, respondents were answering strictly for themselves.

TABLE V

Fishing

Do you fish?

	Number	Percent
Yes	140	58
No	103	42

Fishing Methods

Dunking from shore	44	32
Whipping from shore	61	44
Trolling from boat	58	42
Dunking from boat	20	14
Throwing net	50	36
Setting net	53	38
Surround net	18	13
Scoop net	15	11
Hukilau	1	0.7
Spearing	69	50
Hands	38	28
Bull pen	4	3
Wire trap	5	4

Respondents were asked to identity 5 species of fish that they most often caught. The top 5 responses were papio/ulua, manini, weke, kole, and enenui.

A variety of methods were reported to be used to catch fish. In terms of pole fishing, whipping from shore, trolling from a boat, and dunking from shore were the most commonly practiced methods. Setting net and throwing net were also common practice for respondents. Spear-fishing was the most commonly reported technique, and collecting resources by hand while diving (e.g., lobster, crab) was also indicated as a popular activity.

Ocean Gathering

Respondents were asked if they gathered resources from the ocean (other than fish). Thirty-eight percent (91) stated that they did, while 62% (146) did not. The areas where respondents usually gathered ocean resources were Makakupa'ia to Honouliwai, Honouliwai to Hālawa, and Kaunakakai to Makakupa'ia (Map 1. b page 65).

The average number of days respondents reported they engaged in ocean gathering during the past year was 23. This figure was derived from monthly estimates and adjusted for seasonal variations. Eighty-five percent (122) of the respondents believed that the number they stated represented the typical number of days they engaged in ocean gathering each year. Fifteen percent (21) felt that the number was atypical compared to previous years. A majority of respondents 71% (57) stated that they engaged in ocean gathering throughout the year, while 42% (33) reported that they did the most ocean gathering during the summer months. The types of ocean resources that were most commonly gathered were: 'opihi, crab, he'e (octopus), and limu.

Hunting

Twenty-five percent (61) of the respondents stated that they hunt on Moloka'i. Seventy-five percent (180) did not hunt. The average number of days respondents hunted in the past year was 17 (based on monthly estimates). Eighty-eight percent (51) said that the number they reported represented the typical number of days they hunted every year. Twelve percent (7) stated that it was an atypical year.

Seventy-eight percent (33) of those who hunt stated that they hunt throughout the year. Seventeen percent (7) reported that they do most of their hunting in the summer months. The animal that was most hunted was the axis deer. Pigs and goats were also commonly hunted. The areas most frequented by hunters were the East End (including Pakakai) and the West End (Map 1. c page 66). By far, the most commonly used method for hunting was guns/rifles.

Gathering from the Land

Fifty-seven percent of the respondents (135) stated that they gather resources from the land. Forty-three percent (101) stated that they did not. The East End was the most common place to gather resources from the land, while the Forest Reserve Area was also popular (Map 1. d page 66).

The average number of days in the past year respondents gathered wild plants/fruits was 21 (based on monthly estimates). Ninety-five percent of the respondents (120) stated that the number they reported represented a typical number

of days they gathered in a year. Five percent (6) stated that last year was atypical in terms of the number of days they gathered. Fifty-three percent of the respondents (59) reported that they gathered from the land throughout the year, 30 percent (34) said that they gathered most during the summer, and 9% (10) stated that most of their gathering took place during the spring.

Respondents were asked to name the five wild plants/fruits that they most often gathered from the land. The types of plants/fruits mentioned most frequently were: guava, lilikoi, maile, banana/maia, kou, and papaya.

Gathering from Streams

Twenty-six percent of the respondents (61) reported that they gathered from streams.[35] Seventy-four percent (178) responded that they did not. The streams where respondents did most of their gathering included Wailau, Waialua, and Pelekunu (Map 1. e page 66).

The average number of days in the past year respondents gathered from streams was 10 (based on monthly estimates). Ninety-five percent (54) stated that this number represented the typical number of days they gathered compared to previous years. Only 5% (3) stated that it was an atypical number. Fifty-two percent of the respondents (24) stated that they gathered mainly in the summer, while thirty-three percent (15) stated that they gathered throughout the year. The most commonly gathered stream animals were hihiwai, prawns, o'opu, and ōpae.

Cultivation and Farm Animals

Seventy-four percent of the respondents (74) stated that they grew plants or fruits for food for their family. Twenty-six percent (62) said that they did not. Twenty-nine percent (70) stated that they raised animals for food for their family, while 71% (174) said that they did not. The most common types of animals raised were chickens (for meat and eggs), pigs, and cattle.

Problems with Subsistence

In order to conduct a broad-scale assessment of problems that impede subsistence activities on Moloka'i, respondents were asked a series of pertinent

---

[35] It should be noted that although some respondents initially stated that they did not gather from streams, interviewers proceeded to ask questions in this area. Inconsistencies in the data may reflect respondents realization that they did gather from streams as they answered the question related to this topic.

questions. Twenty-eight percent of the respondents (69) believed that there were problems or activities that interfered with their ability to subsist. Seventy-two percent (177) felt that there weren't any problems. Since they were still able to fish, hunt, and gather the problems were not felt to be such that they "interfered" with their ability to subsist.

All respondents, whether they had answered yes or no to the previous question, were then asked to rate a series of issues/problems in terms of severity using a 4-point scale (1 = Serious problem, 2 = Somewhat of a problem, 3 = Not much of a problem, 4 = Not a problem). Table VI indicates the severity ratings of the problems posed to respondents. The problems rated the most serious were: off-island people who take too much, the harvesting of undersize juveniles, and lack of access to restricted areas. Responses for most of the items fell within the neutral range.

TABLE VI

Ratings of Problems with Subsistence

	N	Mean	S.D.
Off-island people who take too much	229	2.1	1.2
Taking of undersize juveniles	225	2.3	1.2
Lack of access to restricted areas/private property	230	2.4	1.2
People from Moloka'i who take too much	231	2.5	1.2
Erosion/soil runoff	232	2.5	1.2
Pollution	233	2.6	1.2
Misuse	231	2.6	1.2
Waste of resources	233	2.6	1.1
Lack of law enforcement	229	2.7	1.2
Commercialization	228	2.9	1.1
Overdevelopment	232	3.1	1.1

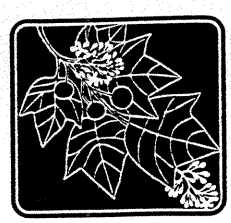
Importance to Lifestyle

Finally, respondents were asked to rate the importance of subsistence activities in regards to the lifestyle of Moloka'i. Responses to this question were posed in terms of a 4-point rating scale (1 = Very important, 2 = Somewhat important, 3 = Somewhat unimportant, 4 = Not at all important). The mean or

average response was 1.2. This finding implies that virtually every respondent believed that subsistence was important to Moloka'i's lifestyle.

MULTIVARIATE ANALYSIS

Statistical analyses were conducted in order to examine differences between demographic groups. This level of data analyses provided specific information on differences between population sub-groups in relation to rates or degrees of subsistence practices and associated factors. The information derived from this analyses was useful in determining the meaning and importance of subsistence to various communities on Moloka'i. Analysis of variance (ANOVAs) was used to determine the degree of relatedness between various subgroup and response category pairings.[36] The aspects of subsistence that were examined included: sharing, exchange, sale, carrying on the culture, family togetherness, spirituality, exercise, recreation, medicine, learning, crafts, special occasions; and rates of the different types of subsistence.



[36] Only those results that were statistically significant are reported in the tables. Sub-group size is independent of group attitude because the statistical measure adjusts for the differential in the number of responses in each sub-group.

Age

The variable of age was divided into 3 categories for the purpose of conducting statistical analyses. The 3 categories were: young (18-39), middle (40-59), and older (60 and above). In each analysis that was statistically significant, younger people were found to be more involved in subsistence and held stronger viewpoints concerning its value and meaning compared to their older counterparts. The significant results are presented in Table VII.

TABLE VII

Summary of Significant ANOVA Results for Age

Activity	Finding
Exchange	Younger people > Older people **
Cultural importance	Younger people > Older people ***
Family cohesion	Younger people > Older people ***
Exercise	Younger people > Older people ***
Recreation	Younger people > Older people ***
Cultural learning	Younger people > Older people ***
Craft-making	Younger people > Older people *
Special occasions	Younger people > Older people ***
Fishing	Younger people > Older people *
Hunting	Younger people > Older people ***
Collecting plants	Younger people > Older people *
Stream gathering	Younger people > Older people ***
Cultivation	Younger people > Older people *

* Represents statistical significance at the .05 level. This is the lowest level of statistical significance. A higher level is represented by ** indicating .01. The highest level is represented by *** or a .001 level of significance. The > symbol, as in Younger people > Older people presented in Table VII, indicates that younger people had a higher measure of the activity or feeling than older people.

Gender

Comparisons were made between men and women in the various areas of subsistence. In each analysis that was statistically significant, men were more involved in different types of subsistence activities than women. The results are presented in Table VIII.

TABLE VIII

Summary of Significant ANOVA Results for Gender

Activity	Finding
Fishing	Men > Women ***
Hunting	Men > Women ***
Ocean gathering	Men > Women *
Raising livestock	Men > Women **

* $p<.05$
** $p<.01$
*** $p<.001$

Ethnicity

Ethnicity was determined through self-identification by the respondents. Comparisons were made between 5 ethnic groups which included Caucasian, Japanese, Filipino, Hawaiian, and Other. The "Other" category was comprised of those ethnic groups (e.g., Chinese, Samoan, Guamanian) whose numbers were too small for statistical analysis. Thus, they were combined into one category. In each analysis that was statistically significant, Hawaiians were found to be more involved in subsistence activities and held stronger viewpoints concerning its value and meaning compared to the other ethnic groups. The significant results are presented in Table IX.

TABLE IX

Summary of Significant ANOVA Results for Ethnicity

Activity	Finding
Exchange	Hawaiians > than other groups *
Share	Hawaiians > than other groups ***
Cultural importance	Hawaiians > than other groups ***
Family cohesion	Hawaiians > than other groups ***
Exercise	Hawaiians > than other groups *
Recreation	Hawaiians > than other groups *
Medical uses	Hawaiians > than other groups **
Cultural learning	Hawaiians > than other groups ***
Craft-making	Hawaiians > than other groups ***
Special occasions	Hawaiians > than other groups ***
Fishing	Hawaiians and Others > than other groups ***
Hunting	Hawaiians > than other groups **
Ocean gathering	Hawaiians > than other groups ***
Collect plants	Hawaiians > than other groups ***
Stream gathering	Hawaiians > than other groups ***
Raising livestock	Hawaiians > than other groups *

* $p<.05$
** $p<.01$
*** $p<.001$

Place of Birth

Comparisons were according to where respondents were born. There were four categories of "place of birth" which included Moloka'i, some other Hawaiian Island, the continental United States, and a foreign county. In each case where the results were statistically significant, Moloka'i-born respondents were more involved in, and held stronger viewpoints favoring subsistence. The significant results are presented in Table X.

TABLE X

Summary of Significant ANOVA Results for Place of Birth

Activity	Finding
Share	Moloka'i > born elsewhere **
Cultural importance	Moloka'i > born elsewhere ***
Family cohesion	Moloka'i > born elsewhere *
Medical uses	Moloka'i > born elsewhere ***
Craft-making	Moloka'i > born elsewhere **
Special occasions	Moloka'i > born elsewhere ***
Ocean gathering	Moloka'i > born elsewhere **
Hunting	Moloka'i > born elsewhere ***
Collect plants	Moloka'i > born elsewhere **
Stream gathering	Moloka'i > born elsewhere **

* $p<.05$
** $p<.01$
*** $p<.001$

Place of Growing-Up

Comparisons were made according to where the respondent spent most of the first 18 years of their life growing up. There were four categories for where respondents grew up. These included: Moloka'i, some other Hawaiian island, the continental United States, and a foreign country. Statistically significant differences were found between those who grew up on Moloka'i and those who grew up elsewhere. The former group was found to subsist more frequently and hold stronger viewpoints concerning its value and meaning. The results are presented in Table XI.

TABLE XI

Summary of Significant ANOVA Results for Place Growing-Up

Activity	Finding
Share	Moloka'i > grew-up elsewhere ***
Cultural importance	Moloka'i > grew-up elsewhere ***
Family cohesion	Moloka'i > grew-up elsewhere **
Exercise	Moloka'i > grew-up elsewhere *
Recreation	Moloka'i > grew-up elsewhere *
Medical uses	Moloka'i > grew-up elsewhere ***
Cultural learning	Moloka'i > grew-up elsewhere ***
Craft-making	Moloka'i > grew-up elsewhere ***
Special occasions	Moloka'i > grew-up elsewhere ***
Fishing	Moloka'i > grew-up elsewhere *
Hunting	Moloka'i > grew-up elsewhere ***
Collecting plants	Moloka'i > grew-up elsewhere ***
Stream gathering	Moloka'i > grew-up elsewhere **
Raising livestock	Moloka'i > grew-up elsewhere *

* $p<.05$
** $p<.01$
*** $p<.001$

Length of Residency on Moloka'i

Respondents were compared according to how long they had resided on Moloka'i. Three categories of length of residency were compared: recent (1-9 years), middle (10-19 years), and long-time (20 years and above). Statistically significant results were found between long-time residents and those who had lived on Moloka'i for a relatively short period of time. The results are presented in Table XII.

TABLE XII

Summary of Significant ANOVA Results for Length of Residency

Activity	Finding
Family cohesion	Long-time > than newer residents **
Medical uses	Long-time > than newer residents **
Cultural learning	Long-time > than newer residents *
Craft-making	Long-time > than newer residents *
Special occasions	Long-time > than newer residents ***
Hunting	Long-time > than newer residents *
Ocean gathering	Long-time > than newer residents ***
Raising livestock	Long-time > than newer residents **

* $p<.05$
** $p<.01$
*** $p<.001$

Educational Level

Respondents were compared according to the highest level of formal education they had completed. The 4 levels that were compared included: intermediate or less, high school, college, graduate school. One statistically significant result was found:

- High-school educated people felt subsistence was a culturally important activity compared to other education-level groups ($p<.01$)

Number of People Living in Household

Comparisons were made between various household sizes. Household size was divided into 3 categories: low 1-2, medium 3-6, large 7-12. For each results that was statistically significant, members of larger households were found to be more dependent on subsistence and held stronger views concerning its importance to household functioning and culture than members of smaller households. The results are presented in Table XIII.

TABLE XIII

Summary of Significant ANOVA Results for Household Size

Activity	Finding
Share	Larger > smaller households **
Exchange	Larger > smaller households *
Sale	Larger > smaller households *
Cultural importance	Larger > smaller households **
Family cohesion	Larger > smaller households ***
Exercise	Larger > smaller households **
Cultural learning	Larger > smaller households **
Craft-making	Larger > smaller households *
Special occasions	Larger > smaller households ***
Fishing	Middle and Larger > smaller households ***
Ocean gathering	Middle and Larger > smaller households ***
Hunting	Middle and Larger > smaller households ***
Stream gathering	Middle and Larger > smaller households ***
Raising livestock	Larger > smaller households ***

* $p<.05$
** $p<.01$
*** $p<.001$

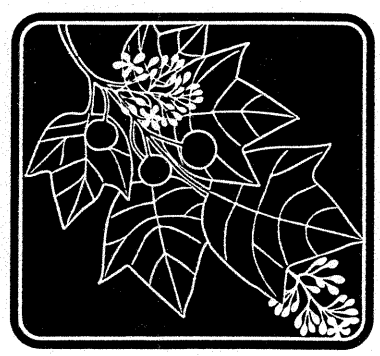
Marital Status

Comparisons were made between married and not married respondents. In the 2 cases where results were statistically significant, married people had a stronger view of and were more involved in a type of subsistence. The results were:

- Married people felt subsistence enhanced family cohesion ($p<.05$)
- Married people raised animals more than single people ($p<.05$)

Income Level

Respondents were compared according to the different income levels they fell into. Five income levels were compared: 0-9,999, 10,000-19,000, 20,000-29,999, 30,000-39,999, and 40,000 and above. No statistically significant results were found for this variable.



DISCUSSION OF RESULTS

The prevalence of subsistence on Moloka'i was reflected in the amount of food that was derived from these practices and feelings about its overall importance to families. The fact that families were highly dependent on subsistence for survival, especially Hawaiians, points to the value of subsistence as a sector of the economy. This dependency on subsistence resources is even more paramount when examined against the backdrop of relatively low income levels on Moloka'i. Close to half of the sample made less than $20,000 annually. This low monetary amount has implications for purchasing power, diet, recreation, and family and community dynamics.

Without subsistence as a major means for providing food, Moloka'i families would be in a dire situation. Subsistence provides families with the essential resources that compensates for low incomes and a means for obtaining food items that may be prohibitively costly under a strict cash economy. Food items like fish, limu, and deer meat which are normally obtained through subsistence are generally unavailable or are very costly in stores. If families on fixed incomes were required to purchase these items, they would probably opt for cheaper, less healthy foods that would predispose them to disease and other health problems. In this respect, subsistence not only provides food, it also ensures for a healthy diet that is critical to the prevention of disease.

On a related issue, subsistence generally requires a great amount of physical exertion (e.g., fishing, diving, hunting) that burns calories and improves aerobic functioning. It provides a valuable form of exercise and stress reduction that contributes to positive health and mental health. Subsistence also requires a lot of time. Those who engage regularly in subsistence are less prone to the types of problems that afflicts those who are at a loss for meaningful activities. The lack of activities is often correlated with lethargy, boredom, or other conditions that contribute to obesity, substance abuse, etc.

According to the results of our study, subsistence is analogous to recreation for a majority of respondents. It is a form of recreation that, once all of the essential equipment is obtained or made (e.g. fishing tackle, diving gear), is relatively inexpensive. And unlike most other forms of recreation that are costly every time they are engaged in (e.g., golf green fees) and intended to provide a sense of psychological fulfillment, subsistence has economic and cultural benefits as well.

Beyond the immediate economic and health advantages that come with subsistence are other qualities that serve to enhance family and community cohesion and perpetuate culture and spirituality. Subsistence is an activity that provides prescribed roles for its members. Family members of all ages feel that they contribute to family welfare through their involvement in subsistence. Subsistence

activities are a central part of camping trips or family outings and parents and children alike are involved in catching fish and gathering marine resources. Older children are oriented towards subsistence by their elders who teach them about techniques and the behaviors of various species.

On another level, subsistence provides a basis for sharing and gift-giving within the community. Residents generally ascribe to a process of reciprocity and sharing with those who are unable to obtain resources on their own. Families and neighbors exchange resources when they are abundant and available, and the elderly are often the beneficiaries of resources shared by younger, more able-bodied practitioners. Some practitioners believe that they must share their catch with others even when it is meager, because generosity is rewarded by better luck in the future.

Resources obtained through subsistence are used for a variety of special occasions that bond families and communities. Resources such as fish, limu 'opihi, deer meat, etc. are foods served at birthdays, lu'au, graduations, and holiday celebrations. 'Ohana and community residents participate in these affairs that cultivate a sense of communal identity and enhance social networks.

Time spent in nature cultivates a strong sense of environmental kinship that is the foundation to Hawaiian spirituality. Subsistence practitioners commune with nature, honor the deities that represent natural elements and life forces, learn how to malama or take care of the land, and develop an understanding about patterns and habits of flora and fauna.

While traversing the land, practitioners also become knowledgeable about the landscape, place names and meanings, ancient sites, and areas where rare and endangered species of flora and fauna exist. This knowledge is critical to the preservation of natural and cultural landscapes because they provide the critical link between the past and the present. For example, wahi pana or sacred sites that are referred to in ancient chants and legends are often lost amidst changes due to modernization. The identification or rediscovery of these sites provides a continuity that is critical to the survival and perpetuation of Hawaiian culture.

An inherent aspect of traditional subsistence is the practice of conservation. Traditional subsistence practitioners are governed by particular codes of conduct that are intended to ensure for the future availability of natural resources. Rules that guide behavior are often tied to spiritual beliefs concerning respect for the 'aina, the virtues of sharing and not taking too much, and a holistic perspective of organisms and ecosystems that emphasizes balance and coexistence.

The finding that younger age cohorts were more involved in subsistence and related practices than older people is not surprising given that the former group is more physically active and generally has more dependents to feed and care for. This

finding may also reflect a resurgence or renewed interest in traditional Hawaiian practices among younger people.

Men were more involved in various types of subsistence than women. However, there was no significant difference between men and women in gathering activities. This result reflects gender role variations for particular activities. Traditionally, activities such as fishing and hunting were done by men while women engaged primarily in gathering. The fact that men continue to dominate certain activities points to the continuation of certain traditions. Aspects of subsistence in which women were primarily involved, such as food processing, preparation, storage, and packaging were not included as questions.

Hawaiians engaged in subsistence and related practices more than other ethnic groups. This finding reflects the importance of subsistence to this group and the perpetuation of culture through subsistence activities. As mentioned previously, subsistence also plays an important economic role, and this may be especially true for Hawaiians who generally have lower incomes. The fact that Hawaiians engage more in subsistence than others also points to how these activities are embedded in the culture and can be explained through a history of adaptation, the development of an indigenous economy, and the maintenance of cultural traditions despite the influx of foreign lifeways. It is important to note that the other groups (e.g. Filipinos, Japanese) engaged in subsistence, although not at the same level as Hawaiians.[37]

Those born and raised on Moloka'i had higher rates of subsistence and related activities than those from other places. This can be explained by the unique subculture of Moloka'i that is manifested through its lifestyle and socialization practices that encourage subsistence. Those born and raised elsewhere are not exposed to the same socialization experiences, especially if they come from urban environments on the mainland and elsewhere. Subsistence may not be a part of their growing up because it wasn't stressed within their culture and resources were not available.

The same process holds true for long-time residents. Whether a function of age, generation, or exposure over time, the longer one lives on Moloka'i, the more likely they are to engage in subsistence.

Finally, married people with large families (households) engaged in subsistence more than single people or those with smaller families. This again points to the economic benefits derived from subsistence, especially in family situations where there are many people to feed. Larger families or 'ohana may also

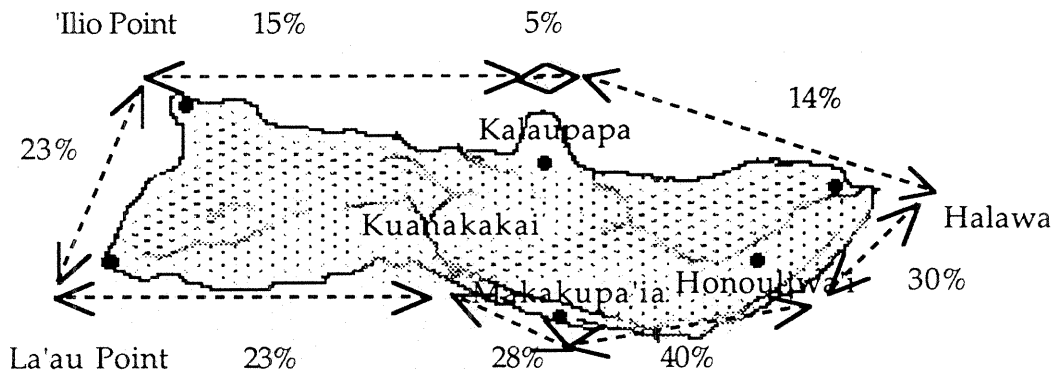
---

[37] Some groups may also be concentrated in certain demographic categories that explains their lower subsistence levels. For example, Caucasians on Moloka'i tend to be an older, retired population which may serve to explain why they don't engage in subsistence as much.

possess more traditional values than smaller families because they reflect a traditional structure comprised of multiple generations. Thus, they are more inclined to engage in subsistence. Smaller families tend to be nuclear, reflecting a physical separation from parents or grandparents who are a crucial element to the perpetuation of cultural values. Smaller families may also be comprised of older members whose children have migrated to other locations.

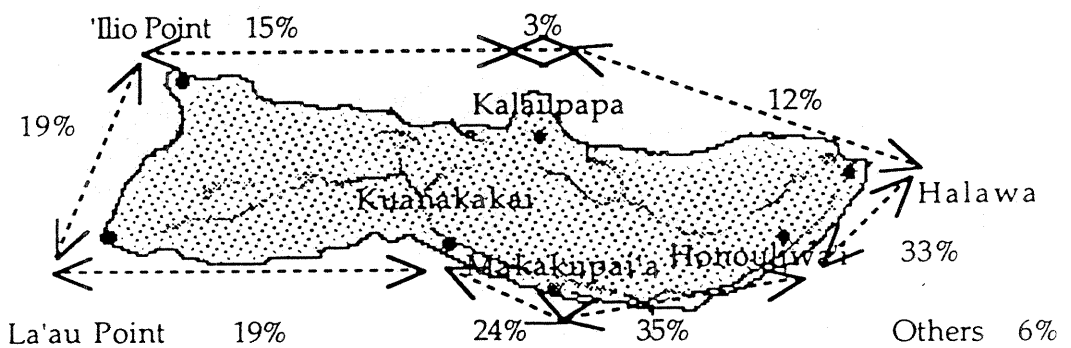
Subsistence Areas Identified by Respondents of the Random Sample Telephone Survey

The respondents of the random sample telephone survey identified the areas where they engage in subsistence activities. The following five maps (Map 1 a through e) depict the percentage distribution of responses by areas.



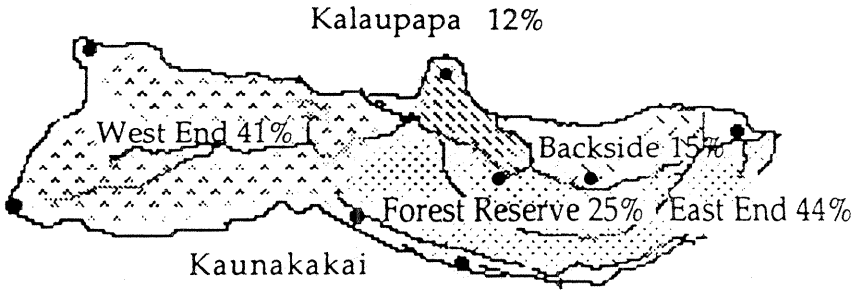
• Percent exceeds 100 due to multiple responses

Map 1. a Moloka'i Fishing Areas



• Percent exceeds 100 due to multiple responses

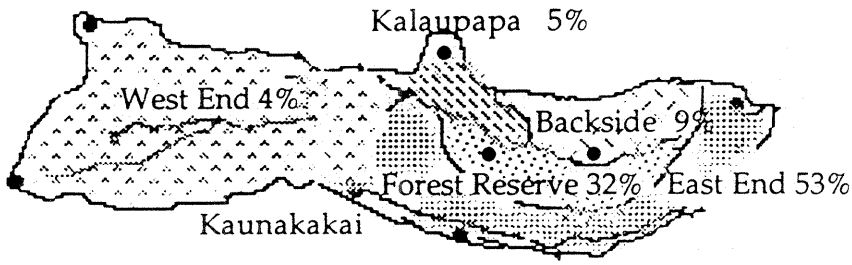
Map 1. b Moloka'i Ocean Gathering Areas



Others 8%

• Percent exceeds 100 due to multiple responses

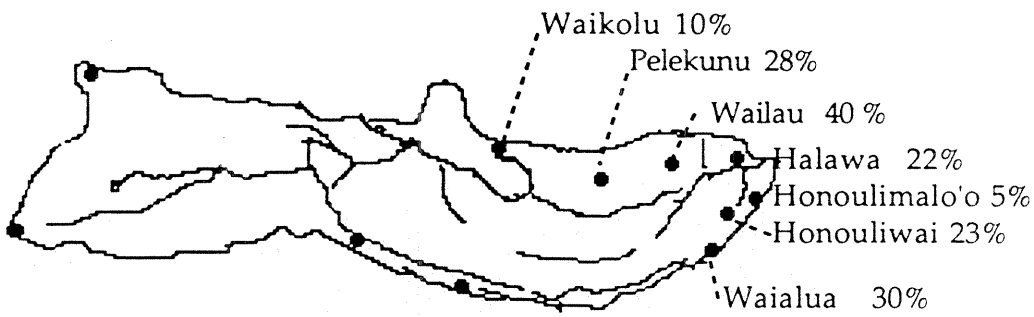
Map 1. c Moloka'i Hunting Areas



Others 20%

• Percent exceeds 100 due to multiple responses

Map 1. d Moloka'i Land Gathering Areas



• Percent exceeds 100 due to multiple responses

Others 10%

Map 1. e Moloka'i Stream Gathering

6. Focus Groups

Wai'eli was well known to the seafarers of old, as it stood on theupland to guard over thepeace of wonderful Hale-o-Lono, Kaumanamana, Hikauhi and Wai-a-kane. In these seas mentioned, if a stranger went there with theidea of showing off his skill in fishing,he would see the sea full of big kumu fish. Strangely though, when a net surrounded the schools of kumu fish and the net drawnup, all he would find would be the sea anemone and the globe fish. The fish that he had seen had mysteriously disappeared. There was only one way to catch fish here and that was by performing a ceremony for the gods of these seas and when it was done, the canoe was filled. So the native said.

W.J. Coelho, Ka Nupepa Kū'oko'a. September 14. 1922.

METHODOLOGY

The methodology involving focus groups was developed through a process of mutual agreement between the research team and the Moloka'i Subsistence Task Force. Eight focus groups were held from July 6, 1993 through August 11, 1993 with a total of 105 heterogeneous subsistence practitioners. Potential focus group members were identified by members of the Task Force from Moloka'i who were most familiar with individuals engaging in various subsistence practices in each district. In addition, Billy Akutagawa of Na Pu'uwai and Hui O Kuapa who conducts hunter education for the Department of Land and Natural Resources and Jane Lee of Queen Lili'uokalani Children's Center were asked to help identify additional subsistence practitioners to participate in the focus groups. The list of commercial fishermen was provided by Mr. Fred Bicoy of the Moloka'i Economic Opportunity office. Mrs. Anita Arce contacted the groups of lā'au lapa'au gatherers.

Participants in the focus groups discussions included Hawaiian practitioners in a number of subsistence and traditional activities. They held a wide range of occupations, and represented a number of Hawaiian organizations.

Sketches of the Focus Group Participants

Participants in the focus groups discussions included Hawaiian practitioners in a number of subsistence and traditional activities, representatives of a range of occupations, and of a number of Hawaiian organizations:

Kaunakakai to Makakupa'ia Focus Group (July 6, 1993)

The Kaunakakai to Makakupa'ia focus group included ten (10) participants. Participants included subsistence hunters, subsistence fishermen, aquatic resources expert, taro farmers, educators, and representatives of the following organizations: Aquatic Resources, Department of Land and Natural Resources, One 'Ali'i Homesteads, Kalama'ula Homesteaders' Association, Hui O Kuapa, Lili'uokalani Trust, Governor's Task Force on Fishponds, Nā Pu'uwai Program, and Pono.

East End Focus Groups (July 13 and 14, 1993)

Two focus groups were conducted in the East End to include people from Makakupa'ia to Hālawa. There were forty (40) participants in total. Participants included subsistence fishermen, commercial fishermen, subsistence hunters, cattle ranchers, limu/reef gatherers, ahupua'a tenants, ocean gatherers, Hawaiian rights and water rights advocates, taro farmers, master fishpond builders, 'ohana-kuleana landowners in Wailau, artisans, kuleana native tenants, kupuna, realtors, and representatives of the

following organizations: Malama I Na Kupuna, Hui O Kuapa, Ho'olehua Homesteaders' Association, 'Ohana Council, and Ka Lāhui.

Mauna Loa Focus Group (July 20, 1993)
The Mauna Loa focus group included twenty two (22) participants. Participants included subsistence hunters, ('opi'o) subsistence hunters, subsistence fishermen, ('opi'o) subsistence fishermen, commercial fishermen, limu farmers, and representatives of the following organizations: Ahupua'a O Kaluako'i, Pono, Ke Kua'aina Hanauna Hou, West End Community Council, Mauna Loa Community Association, and Nā Pu'uwai Program.

Ho'olehua Focus Group (July 27, 1993)
The Ho'olehua focus group was attended by fourteen (14) participants. Participants included subsistence fishermen, commercial fishermen, master fishermen, taro farmers, homesteaders, hunters, cattle ranchers, farmers, physician, kupuna lā'au lapa'au gatherers and representatives of Ho'olehua Homesteaders' Association, Hui Mālama O Mo'omomi, Ke Kua'aina Hanauna Hou, Nā Pu'uwai Program.

Hawaiian Homesteaders Focus Group (July 28, 1993)
The Hawaiian Homesteaders focus group was attended by six (6) participants. Participants included subsistence fishermen, commercial fishermen, subsistence hunters, and representatives of the Department of Hawaiian Homes Lands, Moloka'i Island Hawaiian Homestead Program, Ho'olehua Homesteaders' Association, Hunters' Club, and Kalama'ula Homesteaders' Association.

Commercial Fishermen Focus Group (August 4, 1993)
The focus group of the Commercial Fishermen was attended by twelve (12) participants.

Lā'au Lapa'au Gatherers Focus Group (August 11, 1993)

Thirteen (13) plant gatherers participated, members of the Kahuna Lāau Lapa'au Association.

Participants were invited to attend the focus groups and, in addition, some participants brought family members, neighbors, and friends. The meetings were open to anyone who was interested in attending. No one was asked to leave. The UH consultants guaranteed anonymity for the participants so that they would feel free to share their concerns and suggestions without fear of intimidation, peer pressure, or reprisal.

As the group gathered together, participants signed forms indicating their agreement to freely participate in the session.[38] They also filled out charts which provided a profile of the type of subsistence activity or activities they participate in; how many people benefit from the activity; how often they do the activity; how many years they have done the activity; who taught them the activity; how many generations have done the activity; and the reasons why they engage in the activity.[39]

Focus groups were convened by a member of the Moloka'i Subsistence Task Force who then turned over the facilitation of the discussion to the UH consultant team. The participants were presented with lists of problems and concerns and recommended policies regarding subsistence fishing, hunting, forest gathering, ocean gathering, and cultivation. The lists had been generated from the Moloka'i Subsistence Task Force members.[40]

Participants were asked if they agreed or disagreed with the list of problems and concerns that were distributed; to elaborate upon the issues of concern that they felt were most important; and to expand the list. They were also asked to discuss the list of recommended policies and discuss which they supported and which they did not support. This led to an elaboration of certain policies, rejection of others, and the development of new policies for consideration. The "group memory" was kept on large sheets of butcher paper. After each focus group, the group memory was typed up and mailed to the participants for their review.

In the final exercise of the focus group session, participants were asked to identify on a map of Moloka'i the areas which were used for subsistence and the areas which were important to protect.[41]

Given the concerns raised by subsistence practitioners about commercial fishing and the fear of commercial fishermen that the Task Force would be recommending policies that would be against their interests, a special focus group of commercial fishermen was organized. This focus group was structured somewhat differently. Policy proposals regarding fishing and ocean gathering which arose from the previous focus group sessions were presented to the commercial fishermen for their scrutiny. They rejected some of the proposals; accepted others; and suggested additional proposals for consideration by the Task Force.

---

[38] See: Appendix V a. Focus Group Handouts "Agreement to Participate".

[39] See: Appendix V-b. Focus Group Handouts "Participants' Profile Form" and Appendix VII "Profile of Focus Group".

[40] See: Appendix V-c. Focus Group Handouts "Agenda For Focus Group".

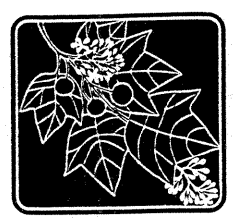
[41] See next section: "Mapping of Subsistence Sites and Areas", related maps, and the picture depicting pratitioners putting colored dots on the map of Moloka'i.

Upon completion of all the focus group sessions, the UH consultant team compiled and tabulated the combined input from all the subsistence focus groups into one document for review and approval by the Moloka'i Subsistence Task Force. The input of the commercial fishermen was kept separate and apart from that of the subsistence focus groups because the commercial fishermen responded to the concerns raised by subsistence practitioners rather than identifying subsistence practices and subsistence sites.

Throughout September and October the Moloka'i Subsistence Task Force discussed each of the proposed policies and decided which to adopt for recommendation and action by the appropriate government agency or private entity. The proposed policies relating to fishing were reviewed in comparison to the critique provided by the commercial fishermen. The Task Force made a special effort to accept the recommendations of the commercial fishermen and to balance their interests, concerns, and needs with that of the subsistence fishermen and ocean gatherers.

On November 9, 1993 the Task Force finalized their "Proposed Policies and Recommendations For Community Review Tuesday November 23, 1993". This was mailed out to all of the 87 focus group participants. A set was also sent out with a press release announcing the meeting on November 23, 1993 to each of the three major newspapers, The Moloka'i Advertiser-News, The Dispatch, and The Pueo.

Following the meeting of November 23, 1993, the Moloka'i Subsistence Task Force met on December 13, 1993 to include the input from the community to their proposed policies and recommendations; finalize their proposal; and approve the draft of the preliminary report for submittal to Governor John Waihee by the end of December 1993. The Task Force also agreed to support legislation being drafted by the Department of Land and Natural Resources to designate subsistence fishing management areas. Support for additional legislation will be discussed in the meeting of the Task Force on January 20, 1993.



MAPPING OF SUBSISTENCE SITES AND AREAS

The subsistence practitioners who attended the focus groups in the Summer of 1993 engaged in a mapping exercise to identify the sites important for subsistence. This approach is consistent with ethnographic and participatory rural appraisal methods.[42] The legend for Map 2. a (page 74) "Subsistence Sites on Moloka'i" described the range of subsistence activities:

Activities	Color
Fishing	Blue
Ocean gathering	Lavender
Hunting	Red
Forest & Stream Gathering	Peach
Gardening	Green
Raising Animals	Lavender
Future Sites to access and /or Protect	Yellow

Focus group participants were provided with colored dot stickers corresponding to the subsistence activities listed above. They were requested to attach the dots on the topographic map in locations known to them for subsistence. This dot map enables the study of the geographic degree of concentration or dispersal, specialization or mixing of subsistence uses.

Subsistence practitioners were invited to identify for each subsistence activity the following range of sites:

(a) sites in which subsistence practitioners currently engage in subsistence;

(b) sites where subsistence practitioners have been in the past, although no longer visited; and

(c) sites subsistence practitioners would like to go to in the future but which have now closed access or which are in remote locations.

This information gives an idea of the extent of the current use and potential re-use of subsistence sites on the island. The dots were coded differently for each focus groups so that the information provided by each group can be extracted from

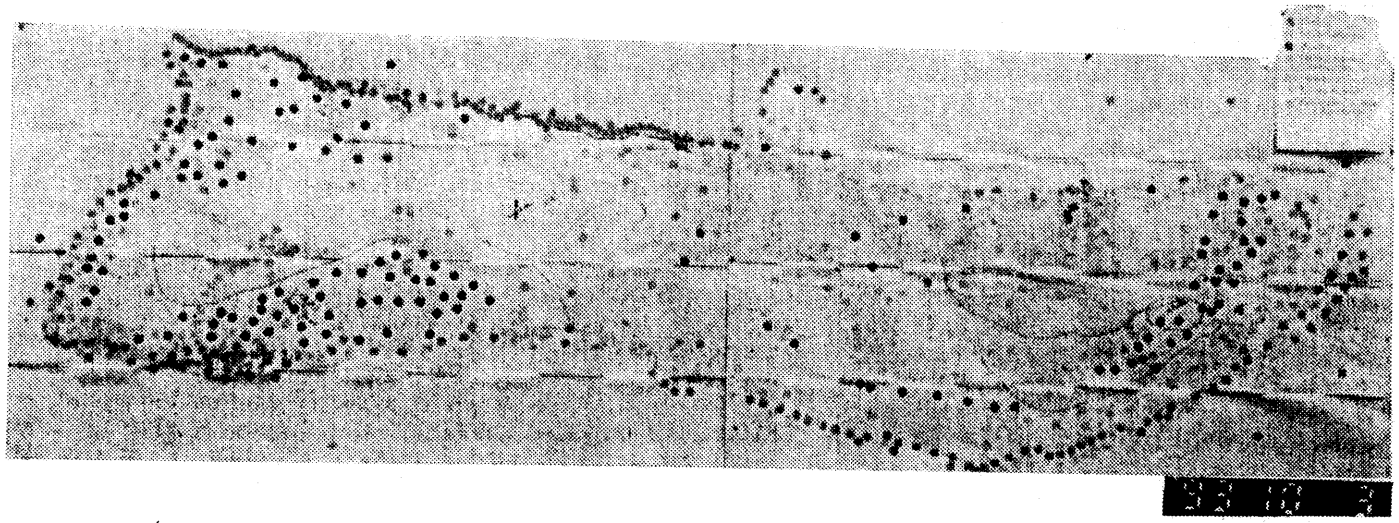
---

42 Minerbi, Luciano, and Nuria Ciofalo "A Community Case Study" Part VII in Davianna McGregor, Jon Matsuoka. eds. June 1993. Native Hawaiian and Local Cultural Assessment Project: Phase I Problems/Assets Identification. Honolulu: University of Hawai'i at Mānoa.

the map: (a) to establish the geographic range of subsistence by district of residence and; (b) to ascertain whether subsistence sites are within or outside the district of residence.

The dominant issues which inspired the mapping exercise at the focus groups centered on: (a) the lack of access to desirable subsistence sites, because of private ownership, government regulation or geographic remoteness; and (b) the need to protect areas and sites from overharvesting, exploitation and ecological damage and ensure their availability for present and future generations.

These concerns required the use of an additional color code. The yellow dots were then used to identify places needing both: (a) better access and/or (b) protection from overuse and overharvesting. The dot map is valuable in giving a spatial dimension to subsistence concerns in land use planning and resource management.



Map. 2. a Subsistence Sites on Moloka'i (1993)
Mapping by Subsistence Practitioners
(photo L. Minerbi)

Fishing: Blue; Ocean Gathering: Lavender; Hunting: Red; Forest and Stream Gathering: Peach; Gardening: Green; Raising Animals: Lavender; Future Sites to Access and /or Protect: Yellow

The Governor' s Moloka'i Subsistence Task Force Final Report

Location of Subsistence Sites

The location of the dots depicting the various subsistence sites on Moloka'i and the location of roads and trails was digitized by Geographic Decision Systems International (GDSI) into the ARC/INFO Geographic Information System (GIS) using the UNIX Workstation. This is the same system that the State of Hawai'i uses, therefore for the first time data on Moloka'i subsistence sites can be associated and correlated to other data already available to the state such as zoning, project proposals, infrastructures, vegetation, etc. The use of this integrated information greatly enhances the possibility that planning can be done taking into consideration subsistence concerns and subsistence resources. The colored dot Map 2. a has been digitized into Map 2. b to facilitate visual analysis. These two maps depict all sites by types of subsistence activities and show the degree of clustering or dispersion of subsistence activities. They help to assess the degree of mix of subsistence activities in the various localities on Moloka'i.[43]

Specifically the GIS maps indicates the followings:

- Fishing sites occur all along the coast because fishermen follow the fish (Map 2. c page 78). The shoreline was marked in a continuous manner all around Moloka'i with the exception of the remote North Coast of East Moloka'i and the depleted and muddied Central Coast, East of Kaunakakai. In addition to East-end Moloka'i, important sites were marked at Mo'omomi, Kawākiu and Halena.

- Ocean gathering sites were marked in specific locations denoting scattered habitat areas (Map 2. d page 79). They were numerous from Kamalō to Kūpeke.

- Almost each district has ocean sites for which fishing and gathering access is sought for future use and for which special protection from overuse, inappropriate use, and/or exploitation was warranted, particularly in the forest reserve and marine sanctuaries such as Mo'omomi Bay (Map 2. i page 84).

- Hunting follows the game, and hunting areas may vary depending on how much hunting is done and fencing (Map 2. e page 80). There were three large areas where deer hunting occurs, below 'Īlio Point, at Punakou and the East-end.

---

[43] The detailed identification of the name place and geographical location of subsistence site is important for planning and it is provided in Appendix VIII "List of Subsistence Sites and Areas". Here only an overview is given.

- Forest and stream gathering indicated sites important for plants and herbs and for the taking of hihiwai and other fresh-water animals (Map 2. f page 81). Gathering sites are found close to settled areas and in the forest zone in a dispersed fashion, while they are concentrated along the streams at Pelekunu and Wailau.

- Gardening, or planting, refers to cultivation of plants and trees for food, ornamental and other uses (Map 2. g page 82). Gardening takes places: (a) within a residential parcel, (b) homestead agricultural allotment, and (c) mauka of the settled area on the East-end.

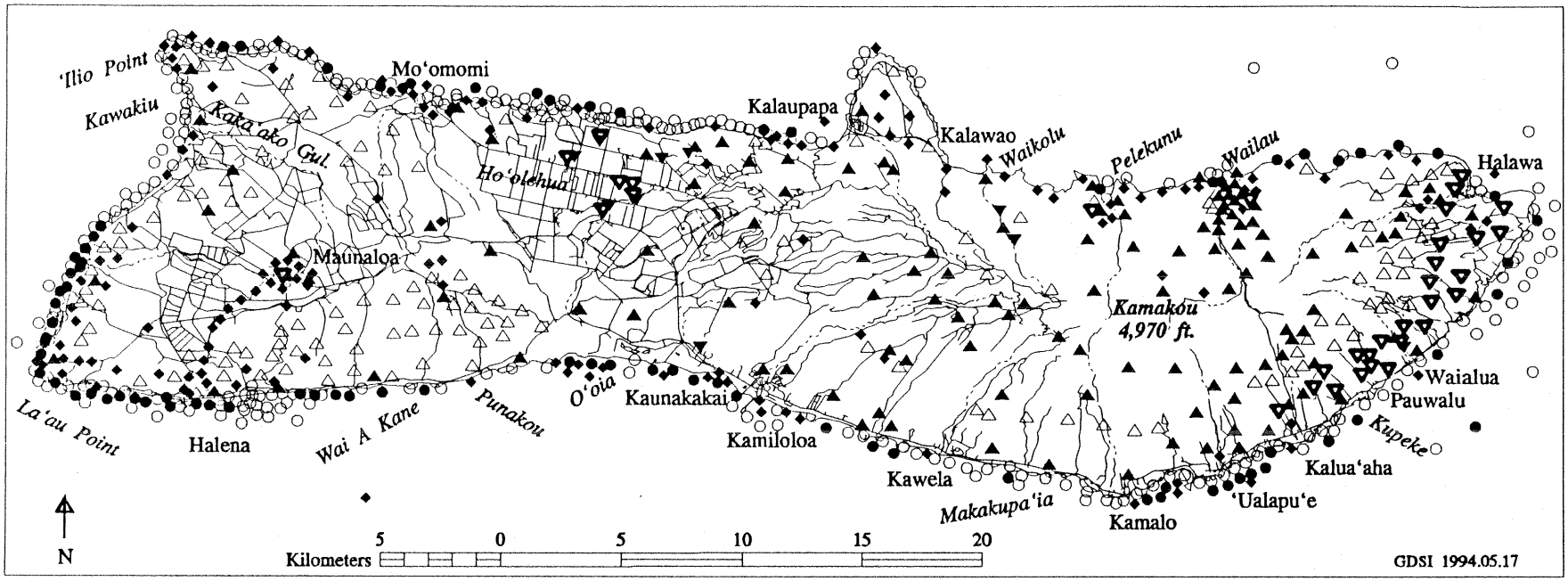
- Sites for raising animals are located at Ho'olehua-Pālā'au Homestead area, at Kalanianaole Colony, Waialua, Waikolu, Pelekunu, Hālawa, and Waialua (Map 2. h page 83). Little discussion covered this topic in the focus group. Conceivably, more sites would emerge in a more detailed discussion.

- Future land sites indicate the desire to open access to hunting grounds and protect residential areas such as Maunaloa from hunting on the West-end. There are important hula sites North of Punakou and streams and plant gathering sites at Wailau (Map 2. i page 84). Each focus group identified specific sites important to them. Guardianship and curator programs for specific sites can be established by involving concerned 'ohana groups.

District and Geographic Range of Subsistence Activities

Participants tended to map subsistence sites within their own district. This is an indication of the importance of proximity, convenience, and accessibility to subsistence sites and of use of familiar and ancestral site for which they claim ahupua'a tenant's right of use. However, certain areas were definitely used for subsistence by practitioners from outside that district.

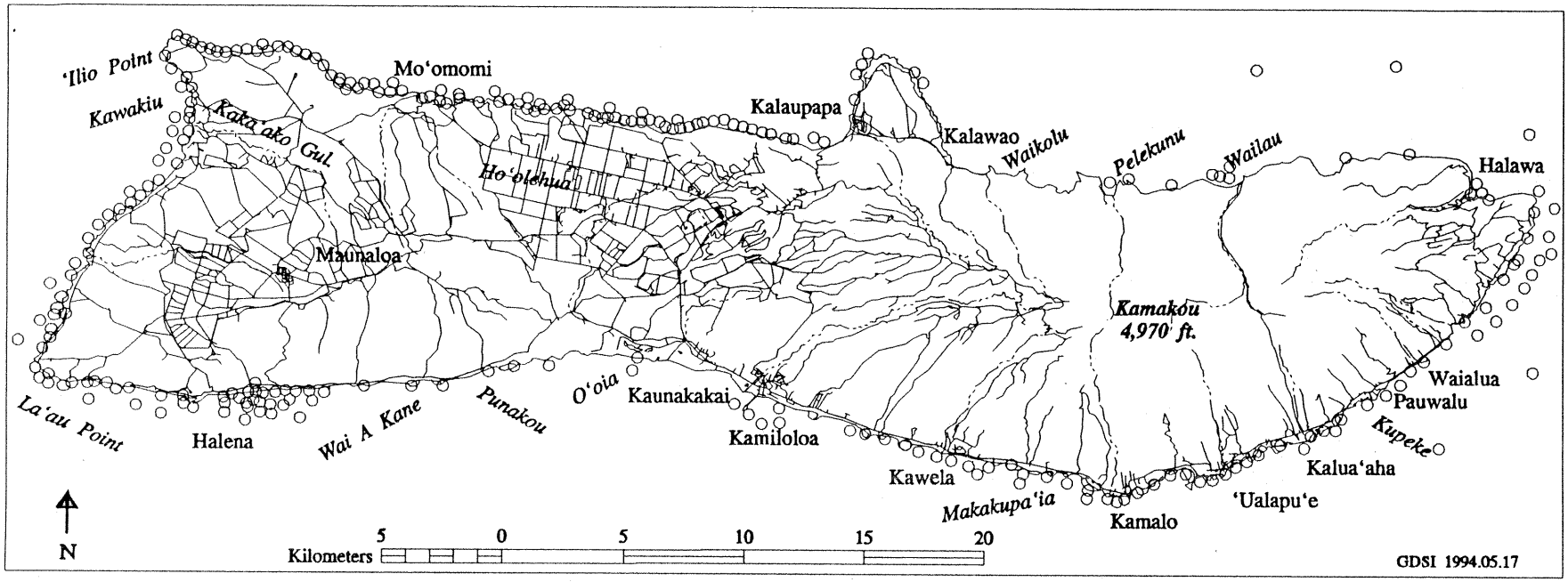
Participants from the five focus groups added dots to the same map. When sites were marked by a participant, they tended not to be marked again by another who followed, unless someone in the latter group wanted to stress a presence at that site by adding their own dot to the map. Therefore, it is likely that geographic range is underrepresented on the map. This information is useful for setting up community based management plans within ahupua'a districts.



SUBSISTENCE SITES

- Fishing
- Gardening
- Hunting
- Future Sites to Access and/or Protect
- Ocean Gathering
- Raising Animals
- Forest & Stream Gathering
- Streams
- Roads & Trails

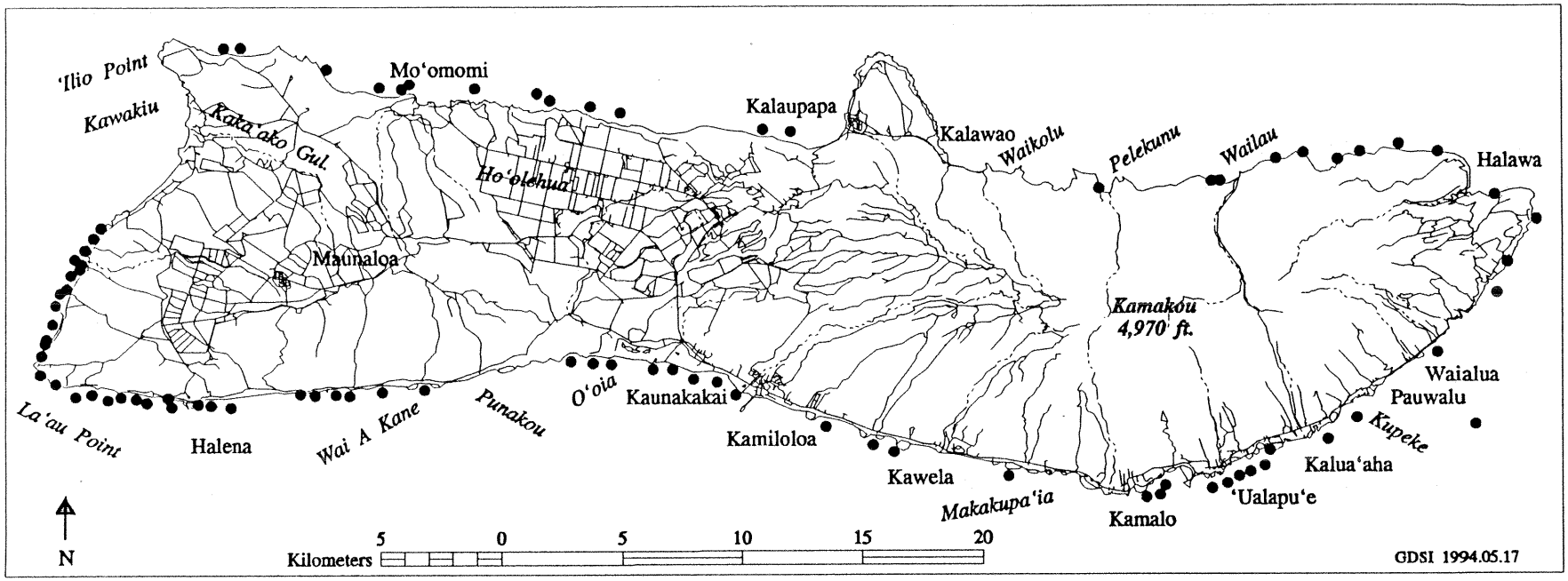
Source: Focus Group Participants
Moloka'i Subsistence Task Force Report (1994)



SUBSISTENCE SITES - FISHING

- ○ Fishing
- ● Ocean Gathering
- Streams
- ▽ Gardening
- ▼ Raising Animals
- Roads & Trails
- △ Hunting
- ▲ Forest & Stream Gathering
- ◆ Future Sites to Access and/or Protect

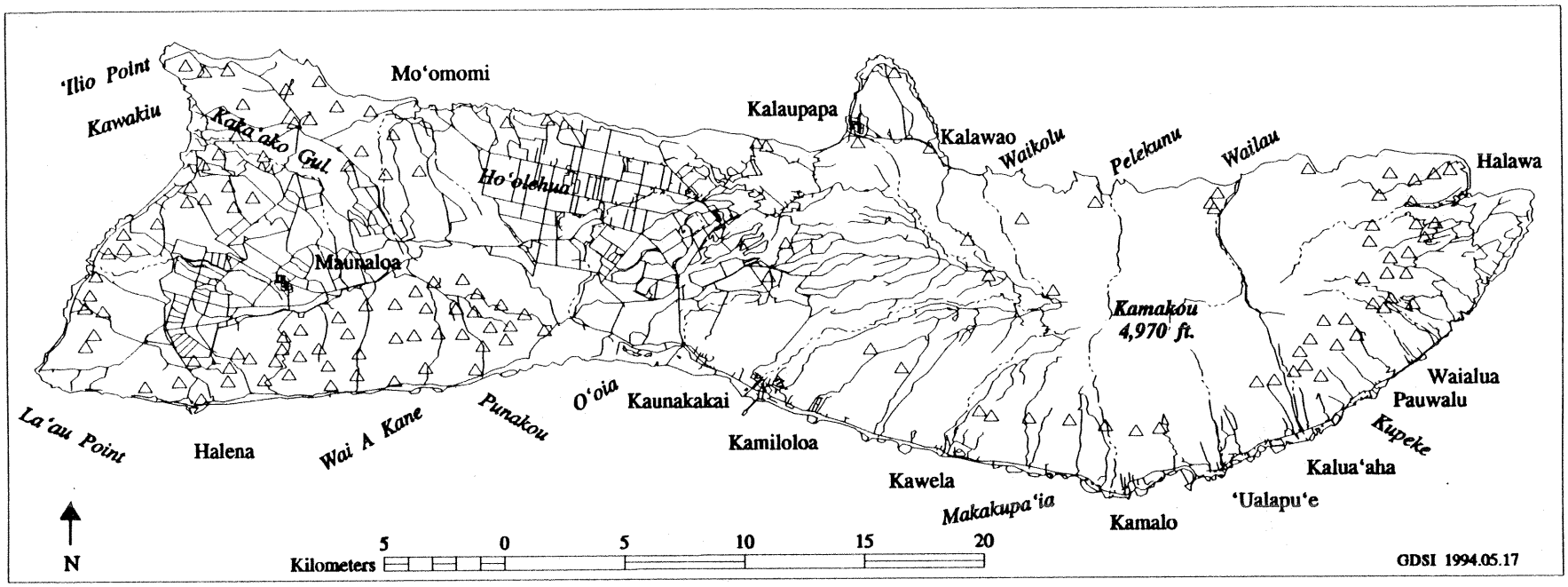
Source: Focus Group Participants
Moloka'i Subsistence Task Force Report (1994)



SUBSISTENCE SITES - OCEAN GATHERING

- ○ Fishing
- ● Ocean Gathering
- Streams
- ▽ Gardening
- ▼ Raising Animals
- Roads & Trails
- △ Hunting
- ▲ Forest & Stream Gathering
- ◆ Future Sites to Access and/or Protect

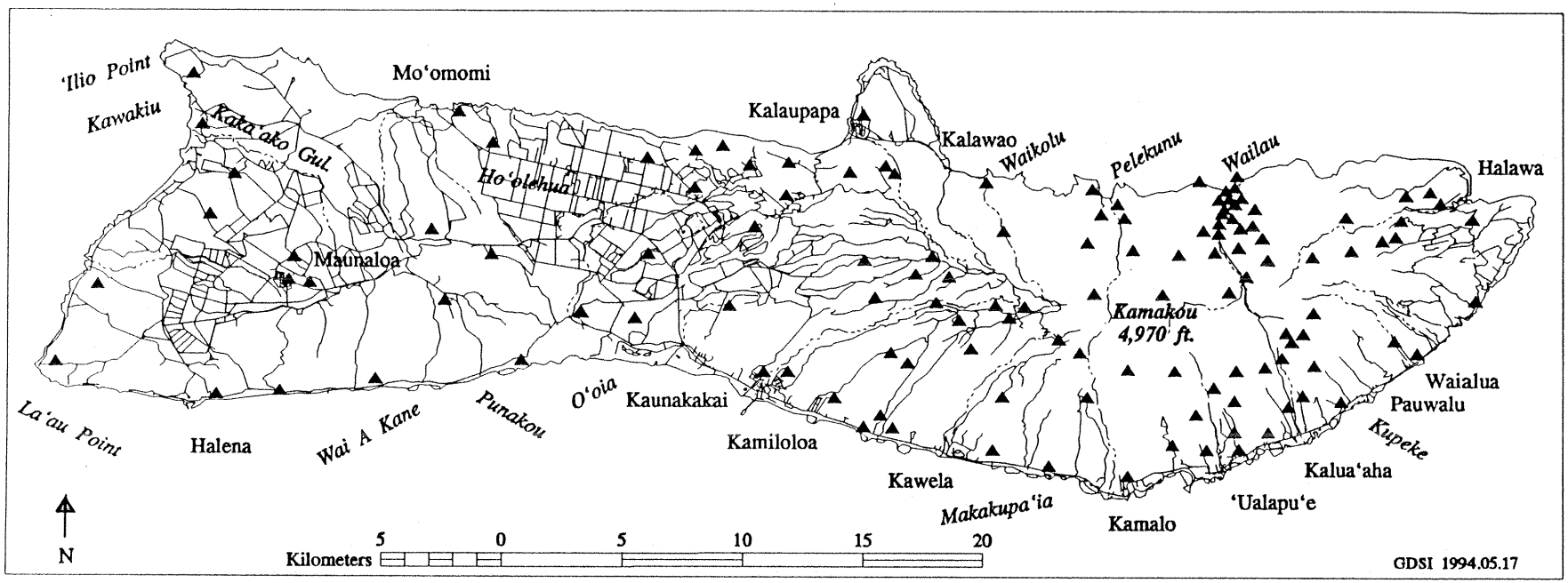
Source: Focus Group Participants
Moloka'i Subsistence Task Force Report (1994)



SUBSISTENCE SITES - HUNTING

- ○ Fishing
- ▽ Gardening
- △ Hunting
- ◆ Future Sites to Access and/or Protect
- ● Ocean Gathering
- ▼ Raising Animals
- ▲ Forest & Stream Gathering
- Streams
- Roads & Trails

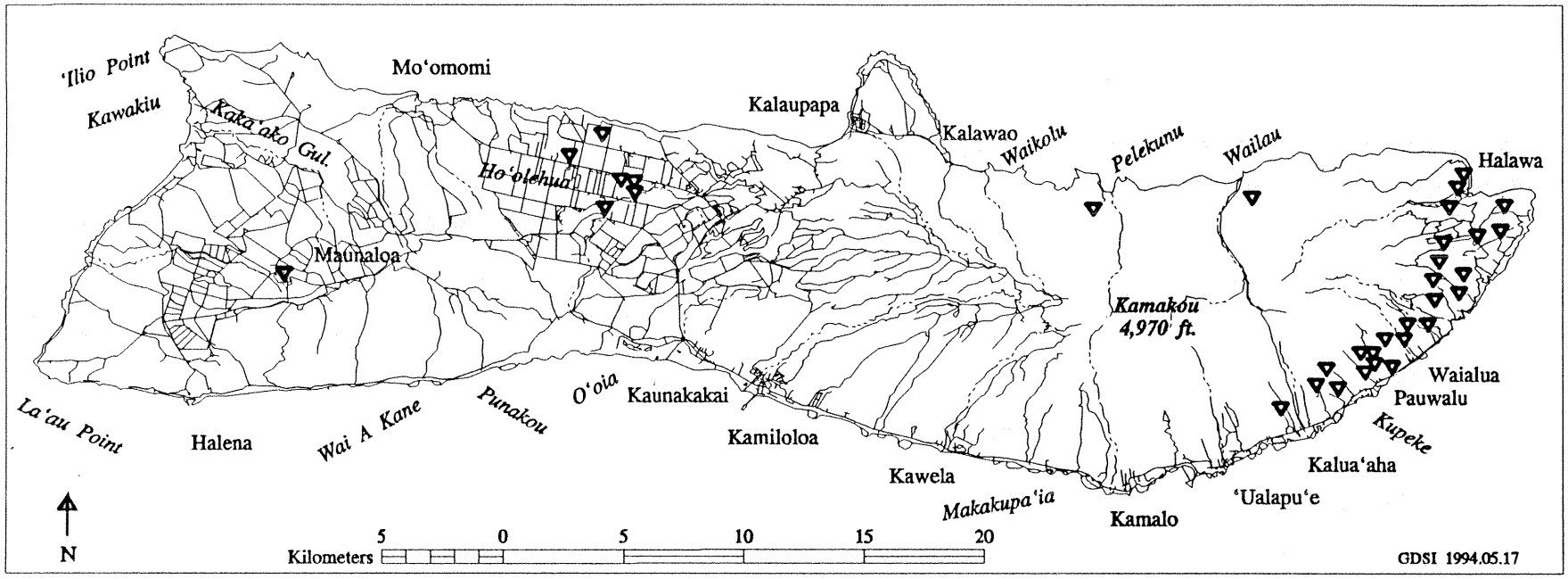
Source: Focus Group Participants
Moloka'i Subsistence Task Force Report (1994)



SUBSISTENCE SITES - FOREST & STREAM GATHERING

- ○ Fishing
- ▽ Gardening
- △ Hunting
- ◆ Future Sites to Access and/or Protect
- ● Ocean Gathering
- ▼ Raising Animals
- ▲ Forest & Stream Gathering
- Streams
- Roads & Trails

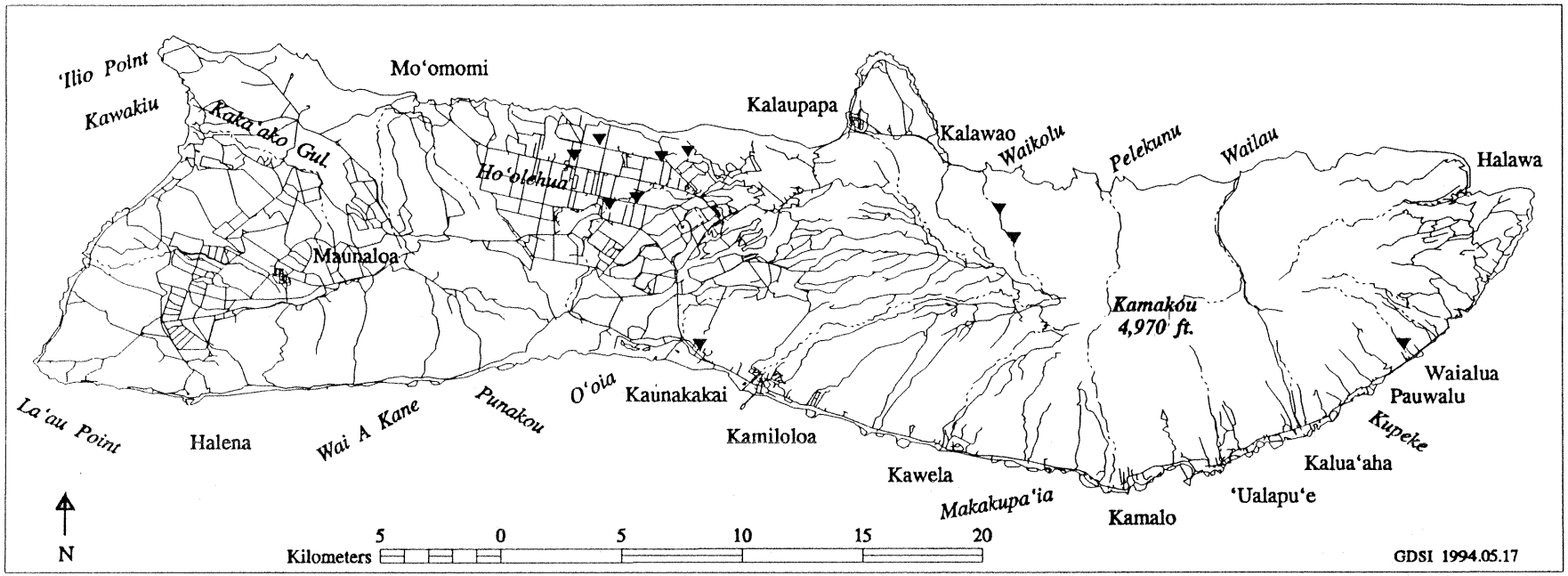
Source: Focus Group Participants
Moloka'i Subsistence Task Force Report (1994)



SUBSISTENCE SITES - GARDENING

- ○ Fishing
- ▽ Gardening
- △ Hunting
- ◆ Future Sites to Access and/or Protect
- ● Ocean Gathering
- ▼ Raising Animals
- ▲ Forest & Stream Gathering
- Streams
- Roads & Trails

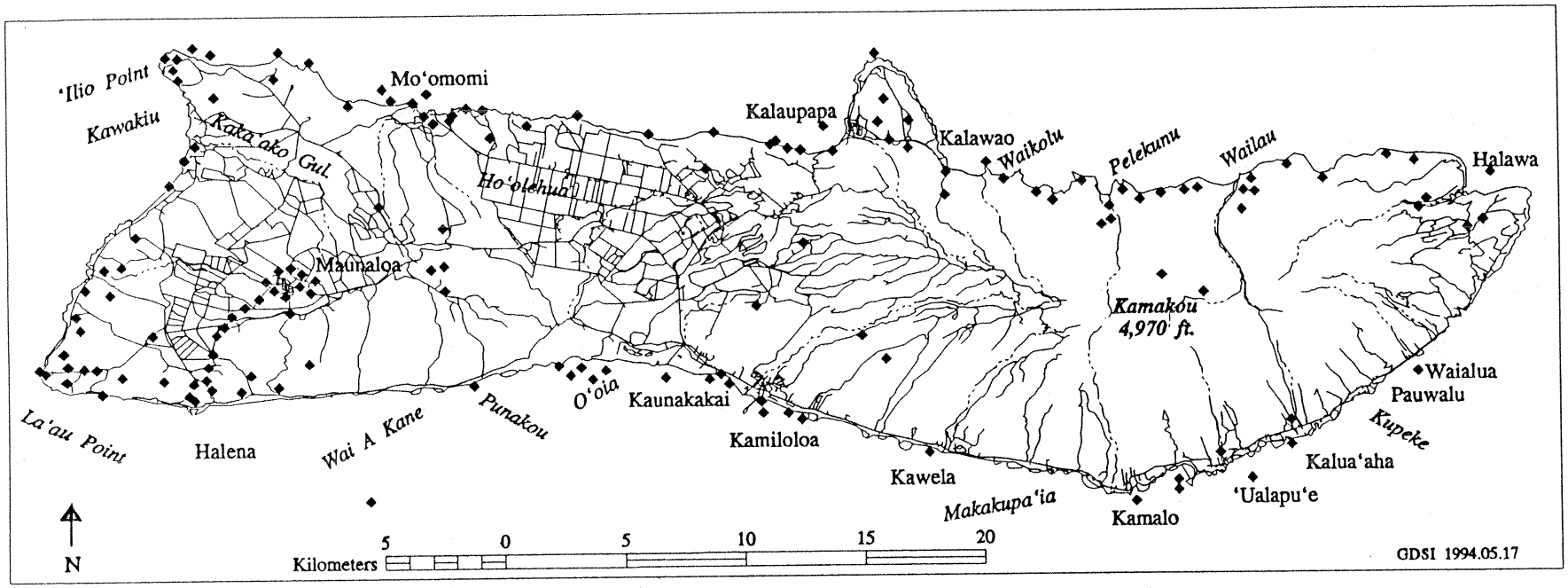
Source: Focus Group Participants
Moloka'i Subsistence Task Force Report (1994)



SUBSISTENCE SITES - RAISING ANIMALS

- ○ Fishing
- ▽ Gardening
- △ Hunting
- ◆ Future Sites to Access and/or Protect
- ● Ocean Gathering
- ▼ Raising Animals
- ▲ Forest & Stream Gathering
- Streams
- Roads & Trails

Source: Focus Group Participants
Moloka'i Subsistence Task Force Report (1994)



SUBSISTENCE SITES - FUTURE SITES TO ACCESS AND/OR PROTECT

- ○ Fishing
- ▽ Gardening
- △ Hunting
- ◆ Future Sites to Access and/or Protect
- ● Ocean Gathering
- ▼ Raising Animals
- ▲ Forest & Stream Gathering
- Streams
- Roads & Trails

Source: Focus Group Participants
Moloka'i Subsistence Task Force Report (1994)

Contemporary Subsistence and Pre-1850 Hawaiian Subsistence

A comparison of Map 3 (page 86) Subsistence Areas Hawaiian Period to 1850 and Map 2. b (page 77) Contemporary Subsistence Sites of 1993 on Moloka'i reveals:

- Existence of traditional fishponds all along the South-shore. Many sites are abandoned, some are in use, and a number of fishponds have a good possibility for restoration and reuse.

- Uninterrupted planting in the old traditional kalo areas and mixed dry kalo and /or kula areas all along the East-end to Hālawa.

- Potential for restoration in many areas. Wet taro was cultivated in ancient times in swampy lands, such as Manawainui East of Kaunakakai; from Kamalo Eastward, Kahananui, Mapulehu, Pūko'o, Kawaikapu, Moanui, Waialua, Honouliwai, and Pōhakupuli on the South East-end; at Hālawa, East-end; and on the North Coast at Wailau, Pelekunu, Waikolu, Waikolu and Wailea.

- Contemporary use of old kula (sweet potatoes) dry crop areas of the West-end, and the South shore of the West-end for deer hunting.

- Utilization for hunting of deer and pig of the traditional not - permanently inhabited areas mauka along the East-end South coast.

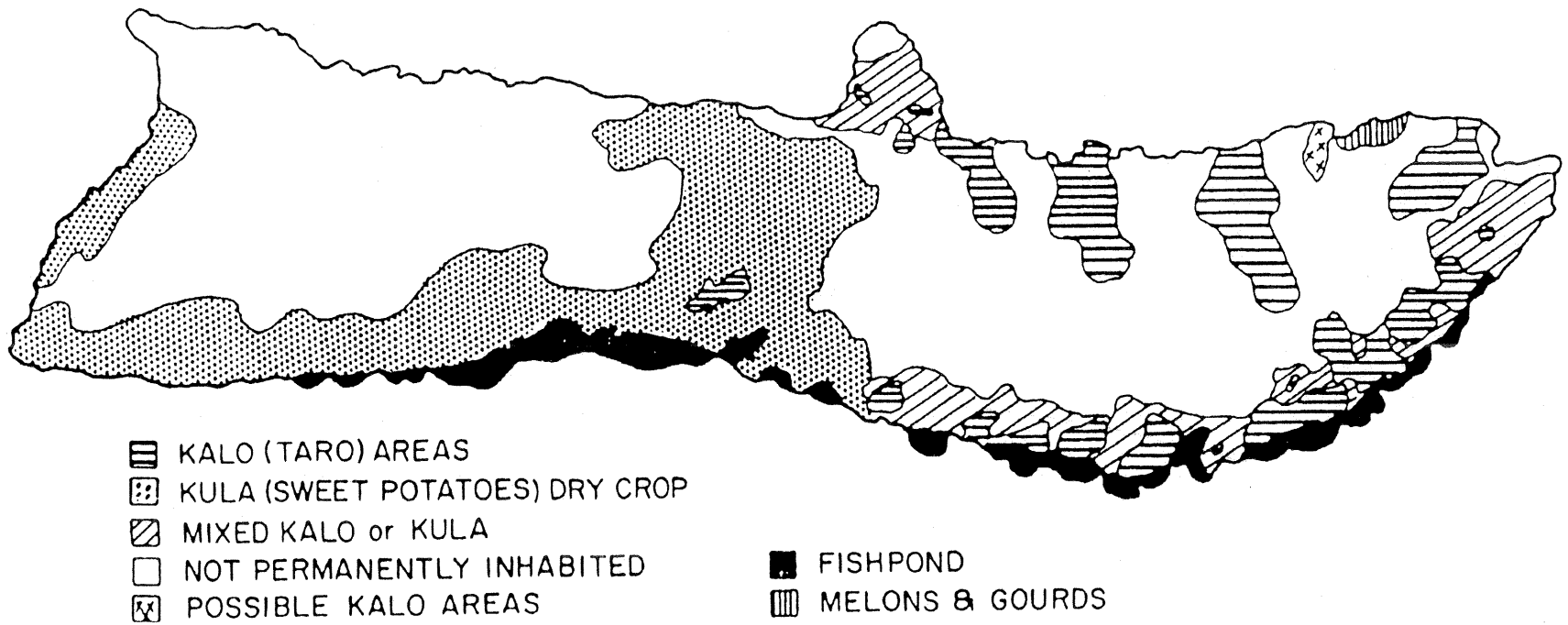
- Continuity in plant gathering in the kula areas from Pūko'o to the East-end, and Central district above and around Kaunakakai; heavy plant and stream gathering in Pelekunu, Wailau and Hālawa.

- Protection of sites including ancient kalo areas in Pelekunu and Wailau and Hālawa, and ancient melon and gourd areas in Hāka'a'ano on the North Shore of the East-end.

- Importance of the system of trails connecting many subsistence and cultural areas: (a) into Wailau; (b) from Hālawa to the top of Pelekunu valley; (c) down to Kalaupapa; (d) all along the North Shore from Kalawao to 'Īlio point; (e) from Maunaloa to the South Shore and Halena; (f) from Mo'omomi to the mud flats; and (g) from Kapālauo'a around Kawākiu and down all along the East-end shores to Lā'au Light House.[44] Trails need protection, secure and/ or controlled access.

---

[44] Mondsarrat 1886 Hawai'i Government Survey Map.



Map. 3. Subsistence Areas on Moloka'i (Hawaiian Period to 1850)

Source: Henry T. Lewis editor. 1970. Molokai Studies Preliminary Research in Human Ecology. Honolulu: University of Hawai'i.

The Governor' s Moloka'i Subsistence Task Force

Contemporary Subsistence and Hawaiian Archaeological/ Cultural Sites

Contemporary subsistence sites coincide with important ancient Hawaiian archaeological and cultural sites. Ancient site complexes are at fishing sites such as Dixie Maru, Kaunalā Bay, Kaupoa Beach, Kamāka'ipō, Kanalukaha Beach. Many ko'a shrines are located along the West-end and South shore. Ancient fishponds are built all along the South coast.

The hunting area on Mauna Loa includes the adz quarry site in Kaluako'i. Many ancient sites can be found in the West-end including sites of the sacred school of the hula. Respondents indicated that sites in need of protection were located makai of Pu'u Nana, and that replanting of a forest of 'ohi'a-lehua trees could be undertaken at Ka'ana, the site mentioned in ancient hula chants.

There are site concentrations at Kapālauo'a near Mo'omomi Bay, Kaunalu Bay, 'Īlio and Lā'au Points, Kanalukaha to Halena, Kahanui, in Kawela, 'Ualapu'e, Keōpukaloa, Hālawa, Pelekunu, Pu'u Uao, Kalaupapa, and Manowainui. Isolated sites also occur all along the Moloka'i coastline.

Subsistence Use in the Hawaiian Homestead Lands

All types of subsistence sites are found on Hawaiian Homestead Lands, but with some differences. This information is useful for district specific and homestead based mauka-makai resource management. In Ho'olehua (13,076.26 acres) there are concentrated fishing and ocean gathering sites, but little hunting. In Kalama'ula (5,116 acres) there are sites to protect on the shore and scattered subsistence sites mauka. In Kapa'akea-Kamiloloa-Makakupa'ia (5,183.34 acres) there are forest gathering and hunting sites mauka and sites to access and protect makai. In Pāla'au Apana 1 (548.70 acres) there are coastal sites to protect and hunting. In Pāla'au Apana 3 (548.70 acres) there are fishing and coastal sites to protect.

The Telephone Survey Results and the Dot Map Compared

The Subsistence Study identifies areas important for subsistence on Moloka'i:

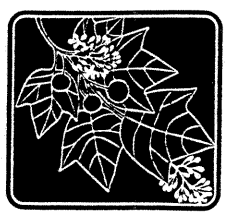
- the random telephone sample identifies general areas where people usually go for subsistence activities (e.g. hunting, fishing, etc.) and tabulates the percentage of multiple responses;

- the Practitioners' Mapping geographically identifies specific sites where Hawaiian practitioners go for subsistence activities and shows clusters of this activities (e.g., hunting and fishing, etc. or degree of multiple use).

The two sets of data help to distinguish where the general population of Moloka'i goes (the survey) versus where Hawaiian practitioners go (the dot map) and provide different levels of detail with regard to the frequency of responses (the survey) and the spatial distribution of subsistence sites (the dot map).

The telephone survey indicates that fishing and ocean gathering areas with the largest percentages of multiple responses (above 30%) are on the South-East end coast from Makakupa'ia to Honouliwai and from Honouliwai to Hālawa (Map 1. a and Map 1. b page 65). The hunting areas are the East-end (44%) and the West-end (41%) (Map 1. c page 66). The land gathering area most popular is the East-end (53%) followed by the forest reserve (32%) (Map 1. d page 66). The highest percentage of stream gathering occurs in remote Wailau (40%) and Waialua (30%) (Map 1. e page 66).

No district of residence of the respondent to the survey had more than 25% of the population. This is an indication that people reach areas outside their district for subsistence. Thus popular subsistence areas are impacted by the overall population of Moloka'i and requires special management attention.



7. Summary of Subsistence Trends and Issues

We are talking about food to put on the table and feed the family and make the family happy. Subsistence is food on the table. No more job, the job slow, the kanaka maoli people going to go into the water. Moloka'i is the way it is because the Moloka'i people malama the place.

Raymond Naki, East Moloka'i.

The Ranch got to be a little more generous. We can work on a management program, that's not a problem. It's been proven. The community has taken care of the area. The place was open for 10 years with the county taking care of the road. There was no major problem then. Had people all along the coast. There was no major problem with the gate being open. I see open access for fishing, We can take the family. It's a real nice place. I want my kids to touch the whole island. It is something that will grow inside of them, to love the island. I would like all the kids to touch the island, to come to love it I want the kids to know the island, inside and out, know the island, touch 'em, feel good.

Mac Poepoe, Ho'olehua Homesteader, Co-Chair Governor's Moloka'i Subsistence Task Force.

Overharvesting

Focus group discussions with subsistence practitioners on Moloka'i revealed that subsistence is vital to families throughout the island, for economic, cultural, and social reasons. The above statement by Raymond Naki is representative of the sentiments expressed by the subsistence hunters, fishers, and gatherers about how critical subsistence is to economic survival on the island.

While subsistence is widespread and actively practiced, there is a growing concern on the island that mounting pressures are leading to overharvesting that will ultimately wipe out the natural resources which the community relies upon for subsistence. At the heart of the matter is recognition of and conforming with traditional Hawaiian subsistence values, customs, methods and practices. The primary reason why Moloka'i has the natural resources it needs for subsistence still in tact is because previous generations of subsistence practitioners lived in accordance with 'ohana values of sharing and respect and faithfully followed traditional and customary practices and kapu (rules of conduct).

The present generation of subsistence practitioners are faced with new challenges and problems from tourism, commercialism, and newcomers who are ignorant of Hawaiian subsistence value, customs, and practices. Hawaiian practices that were customarily passed down from one generation to the next are being set aside in light of increasing competition from off-island fishermen and hunters and new residents from continental U.S. and the Philippines. There is a growing feeling that if you don't take everything when you see it, then someone will take it before you come back the next time. Thus, rather than taking only what is needed, more is harvested . . . and sometimes wasted. The widespread use of large freezers has also contributed to overharvesting. Before, the ocean was "the icebox" and one only gathered enough for the 'ohana and close neighbors and kupuna to eat. Now subsistence practitioners gather more than what their family can immediately eat and the surplus is stored in freezers.

Many of those who have not been trained by kupuna in subsistence skills are using improper methods to harvest. For example, limu beds are disappearing because people are pulling it up from its roots, rather than plucking it. Traditional Hawaiian practice which dictated that only mature resources be gathered and that the reproductive cycles be respected are not honored by newcomers. Thus juvenile marine life is being harvested. Fish, squid, and lobster are being harvested during their spawning season when they congregate together near to the shore and are easier to catch. Moemoe nets, gill nets and lobster nets are indiscriminately trapping any marine life and some areas are fished out, such as between Kaunakakai and Makakupa'ia. In hunting deer, the mentality of going after the trophy rather than going to get food for family and neighbors has reduced the herd count. Night poaching of deer poses a danger to public safety and has contributed to wasting of carcasses. Soaring prices for 'opihi in markets and catering businesses on O'ahu,

where the 'opihi has been wiped out, is leading to increased harvesting of 'opihi for commercial sale. For example, in 1993, all the 'opihi from Kalaupapa to Hālawa was wiped out in 7 days of the zero tides in March and April There was no 'opihi to be gathered during the summer. 'Opihi on the West End is gone. Off island boats take massive quantities of 'opihi from Dixie to the Northwest side. The severest enforcement problem is on the backside, particularly with regard to the moi fishing grounds.

Certainly, the natural resources of Moloka'i and its surrounding waters are still sufficient to support both subsistence and commercial harvesting. Otherwise, subsistence practices would not be as widespread and successful as they currently are. However, the resources are not as abundant as adult subsistence practitioners remember them to be when they were growing up. Moloka'i subsistence practitioners have arrived at a crucial juncture. There is increasing concern that if something is not done **now** to reverse the trend of overharvesting and diminishing resources, there will be nothing left for future generations. Key to restoring a balance between subsistence harvesting and diminishing natural resources will be the community wide acceptance of traditional Hawaiian subsistence values and practices. These need to be taught, understood, accepted, and practiced by everyone who engages in subsistence hunting, fishing, and gathering, on Moloka'i no matter what their ethnic ancestry may be.

There needs to be a commitment by everyone in the community to manage the natural resources of Moloka'i not just to benefit the current generation, but for the well-being of six and seven generations into the future. This commitment can be secured primarily through educational programs which will provide training in proper methods of harvesting subsistence resources and try to inspire acceptance of the traditional values of caring for and nurturing the land and the ocean. Education should be disseminated through the Moloka'i schools; Department of Land and Natural Resources education initiatives, including the hunter education classes, brochures and public information media of the Division of Aquatic Resources; and community organizations.

New fishing rules and regulations and community-based management of natural resources will also be important for immediately curbing trends in overharvesting. The Department of Land and Natural Resources will need to moderately increase the number of enforcement officers assigned to Moloka'i, preferably from the local community. However, government enforcement is not seen as a solution to better management of the island's resources. Subsistence and commercial users need to take responsibility for their own actions. Volunteers, peer pressure, and community-based resource managers can more effectively promote the proper utilization of resources.

Restocking will also be an important component to sustaining subsistence resources on the island. Natural hatcheries, such as at Mo'omomi and Kawa'aloa

Bays and along the South shore need to be protected as sanctuaries for the fish to breed. The Department of Land and Natural Resources should streamline the permitting process for community-based economic development groups to reopen the traditional fishponds which are now part of the ceded public lands trust. Hatchery programs should be attracted to foster the propagation of marine life in the fishponds and in selected bays around Moloka'i.

Access

The other major area of concern to subsistence practitioners on the island is the provision of customary access to all parts of the island. The above statement by Mac Poepoe is representative of the sentiments of the subsistence practitioners concerning access through private lands to reach natural resources for subsistence. Moloka'i people, from young to old, want to have access to all areas of the island, if not by vehicle, then at least by foot. Of particular concern are areas of Moloka'i Ranch that were formerly open under the pineapple company but have since been closed by the new landowners. It would be acceptable to have access regulated by the use of permits and keys. Limiting access to certain areas of the island to foot trails would also serve to limit the amount of resources which can be harvested. A relationship of mutual trust and responsibility can evolve over the next period for both use and management of the resources of Moloka'i, particularly in the Ahupua'a of Kaluako'i.

In summary, subsistence on Moloka'i will continue to be essential to the lifestyle of the people. Community-based management of the resources, rooted in traditional values of aloha 'aina and malama 'aina and empowered with the responsibility for monitoring of the resources will be critical in assuring a subsistence lifestyle for future generations on Moloka'i. The other major facet to the perpetuation of subsistence activities and the protection of the necessary natural resources will be the recognition of subsistence as an essential and viable sector of the overall economy and balancing future economic development and growth on the island to assure its continuation.

Subsistence as a Sustainable Sector of Moloka'i's Economy

A primary reason for the continuation of subsistence practices on Moloka'i has been the continued availability of renewable natural resources. In turn, while years of macroeconomic strategies have wreaked havoc on Hawai'i's natural environment and endemic species of flora and fauna in urban areas and on plantations, subsistence practices have allowed the natural resources in rural communities like on Moloka'i to persist.

Despite how resilient subsistence on Moloka'i has been up to this point, a key concern among focus group participants was how long subsistence practices could be maintained in the face of diminishing returns. Unless drastic and decisive measures are undertaken to protect habitats and the critical mass of species required for regeneration, future generations may not be able to engage in subsistence practices for lack of adequate returns. That is, the amount of resources obtained will not be worth the amount of effort exerted.

A key dimension to the theory of sustainable development is how to offset environmental degradation through preservation.[45] This dimension is germane to our understanding of the issues that surround the Moloka'i Subsistence Task Force. Although Moloka'i's population has remained static over time, burgeoning neighboring island populations have resulted in intense competition over resources that are considered to be rightfully those of Moloka'i residents. Because of overharvesting and resource depletion in places like O'ahu and Maui, subsistence and commercial harvesters have sought to exploit the more abundant resources of Moloka'i. Problems have occurred because of conflicting views about territoriality and tenant's rights, perceived threats to Hawaiian traditions by greedy users who take too much, more efficient technologies (e.g. faster boats) that have overwhelmed natural carrying capacities, etc.

The most common concern among those who are identified as traditional practitioners is that current trends will impair the future productive capabilities of the 'aina. The natural equilibrium that is based on rates of "take" and replenishment has been disturbed by heightened competition over resources and environmental degradation. This seriously reduces the opportunity for future generations to partake in the traditional activities that are believed to be at the basis of Hawaiian well-being.

Beyond the direct resource and material rewards resulting from a subsistence economy are cultural benefits that are critical to community and family well-being. A subsistence economy emphasizes sharing and redistribution of resources which creates a social environment that cultivates community and kinship ties, emotional interdependency and support, prescribed roles for youth, and care for the elderly. Emphasis is placed on social stability rather than individual efforts aimed at income generating activities.[46] We found in our study that large families were more dependent than smaller families on subsistence resources and all members who were old enough played a role in gathering resources. When a resource was caught

---

45 Department of Urban and Regional Planning, University of Hawai'i. 1989. "Sustainable Development Or Suburbanization? Cumulative project impacts in Ewa and Central O'ahu." University of Hawai'i, Manoa.

46 Halapua, Sitiveni. 1993. "Sustainable Development: From Ideal To Reality In The Pacific Islands." Paper prepared for the Fourth Pacific Islands Conference of Leaders. Tahiti, French Polynesia, June 24 - 26, 1993. Honolulu: East-West Center.

or gathered in large quantities during certain seasons, it was common practice to share with 'ohana or community members. The kupuna or elderly were especially reliant upon the process of sharing and exchange because many were not able to engage in strenuous physical activities associated with subsistence. In their earlier years, they were benefactors in this same process. Subsistence, as a process of sustainable development, is a value-laden economic system that places emphasis on social relations over exponential growth rates.

Given all of these factors, subsistence has been a viable sector of the economy that has continued to function along side the sugar and pineapple plantations and the ranches. Hawaiian extended families commonly supplemented their incomes with subsistence fishing and hunting. Unfortunately, subsistence is generally not recognized as a bonified economic sector by western economists. In the face of economic decline in Hawai'i, such as with the phasing out of agribusiness, decisions are generally made that promote new economic development that is based on a linear process towards capital accumulation. This usually comes in the form of tourism.

Subsistence is usually not assessed in terms of how it will be impacted or considered as a viable alternative that will at least partially compensate for the loss of jobs and revenues. The impact of tourism and related commercial activities on subsistence is not seriously factored in as an economic or social cost. The most common trend that is supported by government and labor unions is to find quick replacements to plantation closings. Thus, little is known about how communities fare when left to their own devices in the aftermath of a failed economy. What is not taken into account in the decision-making process is peoples' staying power or their commitment to a place to which they often have genealogical ties, cultural heritage, and their willingness to try alternative approaches to achieving sustainability.

Moloka'i provides a rare example of how residents adapted to changing economic circumstances without massive external intervention. Historical accounts have indicated that when agribusiness closed on Moloka'i, subsistence became a more vital aspect of the economy.[47] Through community-based efforts, residents organized to successfully stave-off tourism development while promoting values related to community and family integrity. Subsistence and other community-based endeavors are considered the forces that bind together the social elements necessary for cultural perpetuation. Subsistence, should not be viewed as a replacement economy per se, but as a tradition that has survived after macroeconomic strategies (i.e., plantations, ranches) failed.

---

[47] Informants reported that subsistence rates increased after the closure of Del Monte, yet because there are no baseline measures, this belief cannot be empirically verified.

Whatever economic recovery strategy is selected, it should allow for subsistence to continue to play a significant role. This is especially critical on Moloka'i where natural resources are available and subsistence is an integral part of lifestyle. Community planning is a proactive strategy that should encourage a functional coexistence and balance between subsistence, the market economy, and government.

8. Proposed Policies and Recommendations

The kupuna used to say, "Okay, enough, let's go home." Now we are scared that if we don't take everything, someone else will take it before we come back.

Halona Kaopuiki, Ho'olehu Homesteader.

The Moloka'i Subsistence Task Force developed the following as policy recommendations after reviewing and discussing the results of the random sample telephone survey, considering the recommendations from the focus groups with subsistence practitioners and the commercial fishermen, and examining the map of subsistence activities. The recommendations were circulated and discussed in a community meeting before they were finalized. Task Force meetings were open and people from the community attended the meetings and presented testimonies.

EDUCATION

Problems and Concerns

The Akua put us on the land as caretakers; we do not own the land. As long as we do not overharvest, there will always be plenty. We all have to malama the 'aina, educate ourselves on the meaning of the ko'a, to know our relationship to the ocean. With the traditional rights of access, gathering and usage of our resources comes the traditional responsibilities to respect and take care of the resources. The habitats and life cycles of the flora and fauna that are utilized for subsistence must be respected.

Proposed Policies and Recommendations

A. Re-educate people on the purpose of certain kapu and to use traditional kapu as a conservation measure.

B. Educational programs (e.g. teaching children, immigrants, etc.) using videos, television and radio spots, public meetings, and outreach in the schools. Stress education on how to properly gather limu and ocean resources. In February or March 1994, sponsor a community workshop with Department of Education, School Community Based Management group, and Department of Land and Natural Resources. Have a subcommittee of the Task Force work on it to encourage generation of curriculum packets. Look into integrating subsistence education into after school programs and intersession cultural programs of the Kilohana School. Work with the SCBM. Share project and curriculum ideas with Moanalua Gardens and the Ohi'a Project.

C. Televise regulations. Write to Fishing Tales, Let's Go Fishing, and Hawai'i Fishing News to dedicate a section of their program to conservation, and protection.

D. Outreach by community leaders, to all ethnic communicants.

E. For fishing and gathering other ocean resources, make a community bulletin board to show what is in season.

F. The hotels should be responsible for educating the tourists and off-island local people about leaving the resources alone.

G. Develop a DLNR education unit - including radio spots and television.

H. Theme - Have a theme - bumper stickers, t-shirts, etc.

I. Integrate some fishing/ocean education into the hunter education program for one or two hour sessions. Talk with Mr. Kam and with Billy Akutagawa. Include education on Native Hawaiian gathering and access rights and responsibilities.

J. Develop education on stream ecosystems.

COMMUNITY STEWARDSHIP

Problems and Concerns

Under the traditional land use system the rights of the ahupua'a tenants were always respected. The 'ohana of each ahupua'a had the right to use the resources of the land and ocean, from mauka to makai. They were also responsible sustaining the resources of their ahupua'a. The boundaries from mauka and out into the ocean were known by everyone on the island and respected. If someone from outside the district wanted to hunt or fish there, they would ask permission. Persons from outside the district could access the area if accompanied by an ahupua'a tenant. Knowledge and respect of these rights and responsibilities over the years has decreased as more people have moved to Moloka'i from off-island and as weekend hunting and fishing from off-island has increased. In some districts of the island development has destroyed the natural resources which had been utilized by parents and grandparents. Community stewardship councils or task forces would help to restore management and respect of natural and cultural resources on the island.

Proposed Policies and Recommendations

A. Set up stewardship councils to (1) manage resources; (2) conduct education on how to pick properly; (3) how to put back and replenish resources. Have ahupua'a tenants represented. People of a particular ahupua'a should begin to manage the resources in their area, outsiders should respect the residents there and ask permission to fish and gather.

B. Focus on Mo'omomi as a demonstration area in order to apply to other areas, such as Honomuni. Determination of additional areas to set aside as a sanctuary would be based upon community input on sensitive breeding grounds.

Mo'omomi Stewardship

Problems and Concerns

On the northwestern side of Moloka'i Island lies the Hawaiian Homes Ho'olehua Homestead. Consisting of 13,500 acres, it supports a population of approximately 1,000 resident native Hawaiians. The northern boundary of this homestead extends to the ocean, with precipitous cliffs along most of its length. Access to this rocky shoreline is either through homestead land, or by boat during calm seas. In spite of being constantly buffeted by northeast trades, this rugged area has historically been regarded as traditional fishing and gathering grounds for native Hawaiians. Earlier aboriginal natives living in close by valleys made regular canoe voyages to these shorelines to reap its bounty. Furthermore, oral history alludes to a time when indigenous inhabitants walked on established trails from Nihoa to 'Īlio Point and beyond to favorite fishing spots. The locations of these revered koa (s) have been passed on from generation to generation, and are well-known even to this very day. For countless centuries the ocean resources of this area have sustained native Hawaiians, both physically and spiritually. However, in recent years much of the marine wealth has been relentlessly exploited, partially for commercial gains. With the advent of large motorized boats, access to the shore by outsiders have become commonplace. Moreover, the State's policy of open fishing has led to infiltration by off island fishermen insensitive to the needs of homesteaders. The result is a dwindling of resources and a declining way of life for many native Hawaiians on Moloka'i.

Proposed Policies and Recommendations

To safeguard their lifestyle and to ensure the integrity of the near shore marine environment, it is recommended that:

Certain waters on the northwestern side of Moloka'i Island shall be shielded from indiscriminate use for a trial period of five years. These waters (hereafter referred to as the "project area") shall extend from the Nihoa Flats to ʻĪlio Point on the northwestern tip of Moloka'i Island, and shall encompass all near shore reefs out to 2 miles. Over this five-year period the State of Hawai'i will be asked to temporarily turn over management of the project area to the Ho'olehua homesteaders to allow them to act as stewards of the resources. In return, via a "memorandum of understanding", the homesteaders will promise to restore traditional strategies consistent with native values and customs to manage and perpetuate the near shore marine resources. At the end of five years, the project will be re-evaluated by the State and Hawaiian Homes to determine: (a) if traditional native subsistence fishing practices have been reestablished, and (b) if the near shore marine resources in the project areas have been enhanced through these selective fishing practices.

Fishing activities within the project area shall be self regulated by homesteaders, and the dissemination of guidelines promoted throughout the island community and to other interested parties. There is no intention to completely ban non-homesteaders from fishing in the project area. A permit system similar to one implemented by Hawaiian Homes during the 1950's will be reinstalled. However, in keeping with traditional customs, no commercial sale of resources taken from this project area is envisioned. Should bilateral consensus occur, the project may be terminated at any time.

In closing it is sincerely hoped that by restoring traditional Hawaiian values, a viable balance between the needs of the populace and the integrity of the near shore marine resources can be obtained.

FISHING AND OCEAN GATHERING

1. Ocean Access

Problems and Concerns

Lack of access through privately owned lands was identified as a major problem for subsistence hunters, fishermen, and la'au lapa'au gatherers. Acknowledgment and implementation of traditional Hawaiian access rights on Hawaiian Homes lands, other state lands, and private lands for purposes of subsistence again emerged as a major concern among the participants. The community and members of the task force recognize the need to have controlled access to fishing grounds and private hunting areas. The primary concern is to allow traditional Hawaiian access which is guaranteed by Article XII. Section 7 of the Hawai'i State Constitution. Many roads have actually been built on what were originally Hawaiian trails. This would include members of Hawaiian 'ohana who live in a particular ahupua'a or any of the surrounding ahupua'a. It would also include any Hawaiians who can establish a link to traditional custom and use of the area by his or her ancestors. The rights of traditional Hawaiian access include assumption of responsibilities to care for the land and ocean and to manage the resources so that they continue to be available for the use of all concerned. The community is concerned a bout what Moloka'i Ranch wants to do with the land and the impact of development upon subsistence resources.

Proposed Policies and Recommendations

A. Protect trails for traditional Hawaiian access.

B. Request that Moloka'i Ranch meet with representatives of the Moloka'i Hawaiian community to make a plan for traditional Hawaiian access for fishing. (Letter making this request was sent November 1, 1993)

2. Fishing Shrines

Problems and Concerns

Hawaiian fishing ko'a (shrines) are important cultural sites which also have significant practical significance for subsistence. The ko'a provide markers to inform subsistence fishermen about the location of traditional fishing grounds.

Developments have already destroyed many ko'a and future developments could potentially destroy more.

Proposed Policies and Recommendations

H. Theme - Have a theme - bumper stickers, t-shirts, etc.

A. Any development needs to be away and inland of the shoreline. There are archaeological sites, especially fishing ko'a which are still used along the shoreline.

B. Make special protection laws for ko'a (fish shrines) and recognize the caretakers.

3. Species, Spawning, Breeding, Kapu and Commercial Restrictions

Problems and Concerns

Within the lifetime of those who are now adults on Moloka'i, ocean resources have significantly declined. Commercial gathering of crab and 'opihi have seriously diminished these particular resources. There are more and more boats from O'ahu and Maui, especially backside. In 1993, all the 'opihi from Kalaupapa to Hālawa was wiped out in 7 days of the zero tides in March and April There was no 'opihi to be gathered during the summer. 'Opihi on the West End is gone. Off island boats take massive quantities of 'opihi from Dixie to the Northwest side. Moemoe gill nets left in too long without being checked are negatively impacting fishing resources. Gill nets, lobster nets and bullpen traps seriously diminish the resources. Gill nets are the main problem for the fishing resources. The severest enforcement problem is on the backside, particularly with regard to the moi fishing grounds. Limu is not being gathered properly. Undersized marine resources are being harvested. Leaching of sewage and water diversions is negatively affecting limu growth. Kaunakakai to Makakupa'ia is overfished. Arsenic has been found in the crabs in Coconut Grove and Pālā'au. With 50% of high school graduates having lu'au which commonly provide raw fish, raw crab, tako, limu, etc. the negative impact on these marine resources are tremendous. Restrictions should apply equally to commercial and subsistence users. The following policies are recommended while there are still a good amount of resources to prevent them being lost to future generations.

Proposed Policies and Recommendations

A. Limu

Promote education on how to properly gather limu kohu and wild ogo (manuea).

B. 'Opihi

There shall be no gathering of 'opihi on Moloka'i for commercial sale.

C. Crabbing

There shall be no gathering of 'ala'eke, kuhonu, and 'a'ama crabs from the wild on Moloka'i for commercial sale.

D. Green Turtle

Pursue an exemption for Hawaiians to be able to harvest turtle for subsistence when the Endangered Species Act is reauthorized.

E. Spawning Season Kapu

Manage resources by closing the season on certain species according to their spawning period for both commercial and subsistence gathering. Educate on the spawning cycle of the he'e.

F. Netting

1. Prohibit lobster nets on Moloka'i.

2. Limit the penning of akule to no longer than 8 hours.

3. Initiate a license system for bull pen fishing on Moloka'i. This will grandfather in those who have been doing bull pen for generations. Not more than five licenses would need to be issued. Those who are licensed would have to mark their nets with their number and identification. Gradually will phase out bull pen fishing altogether.

G. Kapu

Increase number of DOCARE and marine patrol personnel for Moloka'i. At the same time increase peer pressure to comply with rules and regulations by

increasing education of the community. Cooperation by choice is what to aim for.

4. Rejuvenation

Problems and Concerns

In addition to implementing restrictions to protect marine resources, should look at restoration and rejuvenation programs. Support the findings and recommendations of the Moloka'i Fishpond Task Force.

Proposed Policies and Recommendations

A. Restocking and Hatcheries

Expand the Oceanic Institute hatchery program to Moloka'i and use the hatchery for restocking species such as mullet and 'opae in the wild.

B. Fishponds Restoration

1. Support re-opening of the fishponds on Moloka'i.

2. Recommend that the county and U.S. Army Corps of Engineers be more diligent in the issuing of building permits near the fishponds to avoid sewage contamination.

3. Encourage opening alternative sources to fulfill the market demands in Hawai'i for seafood. For example, importation of 'opihi from Aotearoa (New Zealand).

5. Monitoring and Research

Problems and Concerns

Evaluation of the necessity and effectiveness of laws, policies, rules, and regulations need to be based on reliable data. Prime crabbing grounds at Coconut Grove and Pālā'au are polluted, as evident in the arsenic contamination of the crabs

there. Certain limu and algal growth is becoming dense. Alien species of limu are choking native seaweed.

Proposed Policies and Recommendations

A. In making water laws we need to take into account their impact on limu.

B. Study needs to be conducted to determine why limu is not abundant anymore. Is it water related? Sewage related?

C. Create a system to obtain good quantitative data on fish species, their condition, ocean conditions, human impact on the marine environment, etc. Hard data is an important tool to policy making.

D. Create a system to obtain good quantitative data on availability of limu, 'opihi, human impacts on these resources, environmental conditions, etc. to aid in policy making.

E. Encourage research on the tumors on the turtles.

F. Research causes of ciguatera poisoning.

G. Research how to limit and get rid of the black limu which was introduced into Hawai'i through foreign ships.

6. Licensing

Problems and Concerns

There is a need to calculate how much money is brought in by the $50 fee from outside longliners versus the money from the catch that leaves the state. The state should require an out of state license of no less than $50,000 to fish in Hawaiian waters. Alaska requires an out of state license costing $100,000. There is a need to limit the entry of outside longline fishermen to protect our own fishery. The policy would need to account for the practice of longliners moving in, staying a few years and establishing residency while the fishing is good and then taking off for better fishing grounds.

Proposed Policies and Recommendations

Refer recommendation regarding limitation on commercial fish licensing on Moloka'i and out-of-state licenses of $50,000 to DLNR.

7. Ocean Recreation

Problems and Concerns

Subsistence fishing and gathering is negatively impacted by recreational thrill craft. It chases the game away and presents a safety hazard.

Proposed Policies and Recommendations

Restrict windsurfing, jet skis and other ocean thrill craft from subsistence areas. Only canoe and surfboards should be allowed.

8. Inland Development Impacts on Ocean Resources

Problems and Concerns

Development on the land eventually impacts the ocean. Greater care needs to be given to the impacts of development, farming, and grazing on ocean resources.

Proposed Policies and Recommendations

A. Work with soil and water conservation service on protecting mauka development to prevent problems of runoff.

B. Encourage county to scrutinize development mauka so as to prevent problems of runoff.

C. Sand resources and pohaku should be protected. Need a review of sand and mining laws.

D. Create public works systems away from the shoreline to deal with sewage or require composting toilets in certain sensitive areas.

HUNTING, LĀ'AU LAPA'AU GATHERING, FRESH WATER AND LAND RESOURCE MANAGEMENT

1. Deer Hunting

Problems and Concerns

The hunting of deer has been an important part of subsistence on Moloka'i for several generations. Fires in the forest reserve have reduced the habitat of the deer and decreased the size of the herd in the primary area open for public hunting. Moloka'i Ranch used to include a large portion of their lands in the state game management program but subsequently limited public hunting and charged fees. Commercial sale of venison could reduce the size of herds on Moloka'i Ranch lands. Would like to set up a system to give precedence to Moloka'i residents, similar to how Lana'i residents have preference, however the continued use of federal moneys, particularly for fire control may prevent this. Night time poaching has become a problem because there are too many restrictions put on hunters, forcing them to hunt illegally. Who owns the deer? private landowners? the state? Hawaiians? The deer were originally a gift to the King Kamehameha III. Helicopters and military exercises are scaring the deer away.

Proposed Policies and Recommendations

A. On all Moloka'i lands, private, state, DHHL, restrict deer hunting for subsistence only. No commercial sale of venison.

B. A donation to an organization working to take care of the natural resources on Moloka'i is a good idea but it should not be mandatory. The donation request should not say how much to donate.

C. Complaints about abuse of deer by shooting them and leaving them to die should be filed with DLNR.

2. Access

Problems and Concerns

Lack of access through privately owned lands was identified as a major problem for subsistence hunters, fishermen, and lā'au lapa'au gatherers. Acknowledgment and implementation of traditional Hawaiian access rights on Hawaiian Homes lands, other state lands, and private lands for purposes of subsistence again emerged as a major concern among the participants. The community and members of the task force recognize the need to have controlled access to private hunting areas and fishing grounds. The primary concern is to allow traditional Hawaiian access which is guaranteed by Article XII. Section 7 of the Hawai'i State Constitution. This would include members of Hawaiian 'ohana who live in a particular ahupua'a or any of the surrounding ahupua'a. It would also include any Hawaiians who can establish a link to traditional custom and use of the area by his or her ancestors. The rights of traditional Hawaiian access include assumption of responsibilities to care for the land and ocean and to manage the resources so that they continue to be available for the use of all concerned.

Proposed Policies and Recommendations

A. Work with Pu'u O Hoku Ranch and other land owners to build overnight temporary shelters for subsistence hunters.

B. Open trails on private lands to get to state lands.

C. Protect access and trail for traditional Hawaiian access.

D. Access plans should be based on existing trails and cultural uses of the areas.

E. Off-island hunters must be accompanied by Moloka'i residents, thereby replacing the lottery system with the 'ohana system.

3. Nature Conservancy

Problems and Concerns

Nature Conservancy is a relatively new player as a landowner on Moloka'i. Need to encourage them to acknowledge traditional Hawaiian subsistence customs

and practices also. In looking at whether the pigs, deer, or goats are the primary cause of the decrease in vegetation, should also examine life cycle of forest plants, such as the ohia and changes in the amount of rainfall.

Proposed Policies and Recommendations

Encourage Nature Conservancy to work with Hui Malama O Mo'omomi and DHHL to establish a restricted hunting program on their Mo'omomi lands. The Task Force will also encourage them to acknowledge traditional Hawaiian subsistence customs and practices.

4. Ho'olehua Deer Problem

Problems and Concerns

Given the destruction of the former habitat in the forest reserve area, there are more deer in residential areas. Hunting in residential areas is a safety hazard.

Proposed Policies and Recommendations

No hunting in all residential areas on Moloka'i - Ho'olehua, Mauna Loa, Kaunakakai, etc. Support efforts in Mauna Loa and encourage DHHL to work with homesteaders to prevent hunting in homestead residential areas.

5. Hunter Education

Problems and Concerns

The hunter education program presently emphasizes the recreational benefits of hunting or the aspect of hunting to get a trophy. It should also promote subsistence concepts and values so that there is more respect and responsibility for the resources.

Proposed Policies and Recommendations

Incorporate subsistence concepts/values into the DLNR hunter education program.

6. Game Management Program of DHHL & DLNR

Problems and Concerns

Homesteaders should be empowered to control use of Hawaiian homestead lands. All beneficiaries of Hawaiian Homelands should be given priority to use these lands. The deer is now a scarce and precious resource. Should improve the habitat and be certain that there is enough game before opening the game management area for general hunting.

Proposed Policies and Recommendations

A. Create a cooperative for opening Hawaiian Homeland community pastures in Ho'olehua, Kalama'ula through Makakupa'ia and Mahana to be maintained by the homesteaders, themselves. This will lay the foundation for homesteaders to manage the Hawaiian Home Land game management area with or without DLNR.

   i. This project will not only bring back the cattle, but also the deer.

   ii. Kiawe trees will also be replanted to provide shade for deer, to prevent erosion, and the kiawe beans to feed the cows. Suggest planting native trees instead of kiawe which are not native.

   iii. Only Hawaiian homesteaders get keys.

B. Ban military activities on Hawaiian Homelands. Military activities are chasing the game away.

C. Before opening the game-management area up to hunting, do a more efficient count of deer availability, especially the number of bucks available, to number of hunters. Create a system to generate good quantitative data on deer, goat, pig availability, habitat changes, etc.

D. The hunting lottery system should be changed.

E. Encourage DHHL/DLNR to incorporate subsistence needs for Moloka'i residents into the existing game management program policies. Should Hawaiian Homes not take over management in conjunction with the homesteaders cooperative, then it may revert to management by DLNR. A preference system may be possible.

7. Lā'au Lapa'au Gathering

Problems and Concerns

Lā'au lapa'au practitioners identified lack of access on private lands as a restriction on their ability to gather lā'au. The introduction of new plant species, filling up of springs and wetlands has destroyed native plant habitats. Animals in the mountain eat and uproot native plants and cause erosion. Farmers in Ho'olehua use too much pesticides and fertilizers. These chemicals leach into the water table and the ocean and also harm native plants. The spraying of chemicals by the county and state along the roads has killed a lot of lā'au.

Proposed Policies and Recommendations

Create a Lā'au Lapa'au Task Force which will carry out the recommendations which follow. We should do as much as possible to help protect lā'au lapa'au plants in the natural environment.

A. Have Lā'au Lapa'au Task Force members meet with the DLNR to incorporate the concerns of the lā'au lapa'au gatherers and their rights of access into the rules and regulations of its various divisions and commissions.

B. In addition to right of access to the whole ahupua'a, the Lā'au Lapa'au Task Force can also discuss setting up a new program with DLNR how five acres in each district of the island can be set aside so that a variety of plants accustomed to different climates can be cultivated and shared with all Moloka'i lā'au practitioners. This would hopefully set an example for other large private landowners to follow suit - Bishop Estate, DHHL, Pu'u O Hoku, Nature Conservancy.

C. Lā'au Lapa'au Task Force can also make a list of good and bad trees for reforestation programs.

D. Request that the county and state stop chemical spraying along the roadsides.

E. Have Lā'au Lapa'au Task Force consult with farmers in Ho'olehua regarding pesticides that kill lā'au lapa'au and impact upon small farmers.

F. Have the Lā'au Lapa'au Task Force provide education for hunters.

8. Fresh Water Streams

Problems and Concerns

The streams of Moloka'i are pristine. The aquatic life is an important source of food for families who have spent summers backside for generations. The valleys need protection. Modern structures constructed with wolmonized lumber will kill the now abundant stream life, including hihiwai and prawns.

Proposed Policies and Recommendations

A. Only "traditional" structures should be built permanently in Wailau, Pelekunu, and Waikolu valleys.

B. Protect the existing streams on Moloka'i and the native stream life.

C. Limit exploitation of the aquifers in order to protect the streams.

D. Set permanent stream flows at pre-1988 levels.

9. Land Resource Management

Problems and Concerns

The rights of native tenants need to be acknowledged and respected. The soil conservation service needs to work with the community to prevent erosion. Community stewardship of precious resources need to be encouraged. Hinahina on the West End beaches are dying out because of improper handling.

Proposed Policies and Recommendations

A. Educate Realtors, title companies, major landowners, and architects regarding existence of native tenants rights.

B. Work with soil conservation service to put ceiling on development of mauka resources to protect watershed areas and erosion from impacting makai. In particular, ask for monitoring and research of grazing at Mauna Loa.

C. Establish community stewardship of selected forest areas, particularly by hālau.

D. Work with hotels and landowners to establish marked trails and restrict vehicle access on West End and Mo'omomi to protect hinahina. Post signs showing what it looks like, and why it shouldn't be trampled on or picked. Educate tourists to leave hinahina alone.

E. No commercial sale of hinahina.

F. We need to practice self-management regardless of the laws that are out there.

G. Protect historical and cultural sites through curatorship programs providing financial resources for restoration and maintenance work.

H. Limit hours for commercial tour helicopters.

9. Action Plan

A lot will come out of the Mo'omomi plan. The idea was born with me because I was taught this way by my grandfather. He taught me to love the ocean. Today when I look at the ocean, I get kinda sick because of what I see. All these guys damaging the ocean. We all know. It's right in front of our eyes. Things are disappearing. It's our responsibility to take care of our areas. Mo'omomi will set an example.

Mac Poepoe, Ho'olehua Homesteader, Co-Chair Governor's Moloka'i Subsistence Task Force.

Introduction

There are six components to the action plan which are discussed in detail in this section. The Task Force has taken the initiative to implement these action programs at appropriate points throughout 1993-1994. These include:

- Ongoing negotiations with Moloka'i Ranch regarding access;
- Establishing the Mo'omomi Subsistence Fishing Area;
- Educational programs;
- Amendments to Hawai'i Fishing Regulations;
- Endorsement of homesteader management of Hawaiian Homes hunting grounds; and
- Appointment of a Moloka'i Subsistence Advisory Committee

1. Traditional Hawaiian Access In Kaluako'i

The Task Force asked Moloka'i Ranch to recognize traditional Hawaiian rights of access. Discussions with the ranch were initiated and were still ongoing at the time that the Governor's Moloka'i Subsistence Task Force had completed this report. There was a certain degree of frustration that the talks have not resulted in an agreement.

Remaining house sites, shrines, fishing ko'a, and trails are evidence of established use and custom in Kaluako'i by Hawaiian ancestors. The third largest adz quarry complex in the islands is located in Kaluako'i. Hawaiians from throughout the island obtained their adzes from this ahupua'a. It was also a traditional center for the hula. It is acknowledged as the district in which the hula originated.

The renowned trail, "Ke Ala Pupu I Moloka'i" is said to have linked the dry hot shore of 'Iloli with the sands of Mo'omomi and was constructed by Kiha-a-Pi'ilani when he was reigning chief of Moloka'i, Maui, Lana'i, and Kaho'olawe.

Maps produced by M.D. Mondsarrat for the Hawaiian Government Survey in 1886 and in 1897 clearly show a trail going from Kapalauoa near Mo'omomi to Ilio Point and from Ilio Point along the West coast to Lā'au Point Hawaiian oral tradition and archaeological surveys reveal that Hawaiians from other parts of the island, particularly the Windward Valleys periodically visited Kaluako'i to catch and dry enough fish to last them through the rainy season when the ocean was rough.

During the period of the pineapple plantation, the Mauna Loa community had ready access via a road from Mauna Loa through the pineapple fields, to Hale O Lono and as far as Halena. In the focus group, Mauna Loa residents shared fond memories of family picnics, boy scout camping, and community get-togethers at Halena. When pineapple operations closed in the 1970's, access was discouraged and finally, around 1975 the pineapple bridge along the road was burned down and access to Halena from Mauna Loa through the fields was cut off.

In the late 1950's the Moloka'i Channel races used to launch from Kawakiu and access to that area was open for that purpose. In the mid-sixties the launching point to the races was shifted to Hale O Lono and the area is now open for the annual races.

In 1975, Hui Ala Loa started its efforts to open up public access along traditional trails and well-used roads. In July of the same year they organized a march which resulted in opening a mauka-makai vehicular access through ranch pastures for ten years. In March 1976, the group opened access from Pāla'au through Iloli and as far as Kolo Wharf. Access in both areas closed again in 1985.

Routes Suggested For Traditional Hawaiian Access

Members of the task force recognized the merits of limiting access in selected areas to pedestrian access on trails. The suggested access routes for traditional Hawaiian subsistence, culture and religious purposes are as follows:

A. Along the Western and Northern shore of Kaluako'i:

- In addition to the existing public roads, allow pedestrian access from Dixie Maru to Lā'au Point along the dirt road.
- Allow vehicular access from Paniolo Hale to Kawakiunui along the dirt road.
- Allow pedestrian access from Kawakiunui to 'Īlio Point and along the trail from 'Īlio through Kaeo to Kapalauoa by the pali and along the shoreline to Mo'omomi.

B. Along the Eastern boundary:

- Allow vehicular access from Mahana (by Nahua'ai) to Pāla'au and to Iloli and over as far as Kolo Wharf.

- Also allow vehicular access from Kalama'ula through Pālaʻau to Iloli and over as far as Kolo Wharf.

C. Along the Southern shore:

- From Kolo Wharf allow pedestrian access to Halena,.
- Allow vehicular access from Mauna Loa through the pasture by Pohakuloa and through Wai'ele to Hale O Lono. From Hale O Lono allow vehicular access East to Halena and West to Pu'u Hakina.
- From La'au Point allow pedestrian access to Pu'u Hakina.

2. Mo'omomi Subsistence Fishing Area From Nihoa Flats to ʻĪlio Point

Through the efforts of the Moloka'i Subsistence Task Force, led by Mac Poepoe and Wayde Lee, a bill enacting a new law was passed by the Seventeenth Legislature, 1994 to designate community-based subsistence fishing areas with the Mo'omomi area as a demonstration pilot project area. The bill, H.B. 3446, H.D. 2, S.D. 2 is below. Under the new law a fishing management area, to be called "community based subsistence fishing area", can be designated by the Department of Land and Natural Resources on Moloka'i or on any other island. Hui Malama O Mo'omomi and the DLNR will work together to establish the "Mo'omomi Subsistence Fishing Area" as a short-term demonstration project and as a long-term community-based subsistence fishing area under the stewardship of the hui. The Moloka'i Subsistence Task Force supports the funding of Hui Malama O Mo'omomi by the Moloka'i Office of the Department of Business, Economic Development and Tourism to develop a management plan in cooperation with the Department of Land and Natural Resources Aquatics Division and the Department of Hawaiian Homelands for subsistence fishing in the area offshore of Nihoa Flats to ʻĪlio Point on Moloka'i, as mandated by H.B. 3446.

The bill reads as follows:

RELATING TO SUBSISTENCE FISHING

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

SECTION 1. Chapter 188, Hawaii Revised Statutes, is amended by adding a new section to be appropriately designated and to read as follows:

"188 - Designation of community based subsistence fishing area.

(a) The department of land and natural resources may designate community based subsistence fishing areas and carry out fishery management strategies for such areas, through administrative rules adopted pursuant to chapter 91, for the purpose of reaffirming and protecting fishing practices customarily and traditionally exercised for purposes of native Hawaiian subsistence, culture, and religion.

(b) Proposals may be submitted to the department of land and natural resources for the department's consideration. The proposal shall include:

(1) The name of the organization or group submitting the proposal;

(2) The charter of the organization or group;

(3) A list of the members of the organizations or group;

(4) A description of the location and boundaries of the marine waters and submerged lands proposed for designation;

(5) Justification for the proposed designation including the extent to which the proposed activities in the fishing area may interfere with the use of the marine waters for navigation, fishing, and public recreation; and

(6) A management plan containing a description of the specific activities to be conduced in the fishing area, evaluation and monitoring processes, methods of funding and enforcement, and other information necessary to advance the proposal.

Proposals shall meet community based subsistence needs and judicious fishery conservation and management practices.

(c) For the purposes of this section:

(1)"Native Hawaiian" means any descendant of the races inhabiting the Hawaiian islands prior to 1778; and

(2)"Subsistence" means the customary and traditional native Hawaiian uses of renewable ocean resources for direct personal or family consumption or sharing.

SECTION 2. The department shall establish a subsistence fishing pilot demonstration project for the fisheries adjacent to the coastline between

Nihoa Flats on the East to ʻIlio Point on the west on the island of Molokaʻi. The department of land and natural resources shall adopt rules pursuant to chapter 91 to delineate the offshore boundaries of the project area. In implementing this project, the department:

(1) Shall protect and allow the continuation of all existing commercial fishing activities in the project area;

(2) May allow non-native Hawaiians to continue existing recreational fishing activities;

(3) Shall adopt rules pursuant to chapter 91 to implement the purpose and intent of this project by June 30, 1995; and

(4) Shall file a status report on this pilot project no later than twenty days prior to the convening of the Regular Session of the 1997.

SECTION 3. The pilot project shall cease to function on July 1, 1997.

SECTION 4. New statutory material is underscored.

SECTION 5. This Act shall take effect upon its approval; provided that the pilot project shall not take effect until the department of land and natural resources adopts rules or the pilot project.

In sum this bill supports efforts to come up with a management plan which is community based.

3. Education

The Task Force identified education as a very important area of immediate action and collaboration among subsistence practitioners, schools, government agencies and private organizations:

1. Coordinate with the department of Land and Natural Resources and with Maui aquatic education specialist to produce: (a) videos showing Molokaʻi practitioners teaching students how to hunt, harvest ocean resources, and gather marine and land resources from the forest and back valleys, for example, Uncle Earl Pawn demonstrating proper subsistence hunting, Mac Poepoe demonstrating proper harvesting of marine resources, etc.; (b) informational brochures explaining how to properly harvest and protect Molokaʻi's fragile natural resources; (c) short commercials regarding proper harvesting and the need to protect Molokaʻi's fragile natural resources; and

(d) promote positive examples of traditional Hawaiian subsistence values and practices as a means of discouraging a competitive approach to fishing and hunting.

2. Work with Billy Akutagawa and Billy Kam to develop a unit on proper subsistence hunting in the hunter education program. Also discuss with them the possibility of giving the hunter's test verbally, instead of written. Some of the young men have difficulty passing the written test, but could pass with a verbal test.

3. Develop a list of community resource persons available to lecture in the schools. Also develop a list of available videos to educate the students about proper natural resource management.

4. Coordinate with Verna Marquez to meet with principals of the Moloka'i public schools to discuss developing curriculum units and related materials and resources to educate school children at different grade levels about traditional Hawaiian values relating to the land, the purpose of the kapu to protect natural resource, how to properly harvest natural resources for subsistence, and guidelines on rules and regulations that protect the natural resources, etc.

5. Coordinate education on proper subsistence hunting, fishing, gathering and protection of the natural resources with other organizations doing environmental education on Moloka'i, such as Penny Martin with Moanalua Foundation, Glen Kondo with the Moloka'i High School audio-visual program; and Nature Conservancy.

4. Marine Resources

To implement the recommended policies regarding marine resources, the Division of Aquatic Resources of the Department of Land and Natural Resources will need to initiate administrative rules proceedings for their adoption. A letter, requesting rule-making to implement the recommendations regarding regulation of scarce marine resources, has been sent to Henry Sakuda, administrator of the Division of Aquatic Resources.[48]

Regarding turtles, the review period for the reauthorization of the Endangered Species Act has closed. We will need to coordinate efforts with Hawaiians from all the different islands to document historical uses of turtles by Hawaiians in order to have Congress exempt the turtle from the Endangered Species

---

48 Attached as Appendix IV.

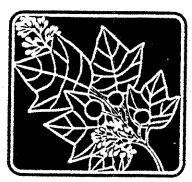
Act so that Hawaiians will be able to gather turtles for cultural, subsistence and medicinal uses.

5. Hunting

Support the plan of the Moloka'i Homesteaders Livestock Association for a cooperative of homesteaders to open community pastures in Ho'olehua, Kalama'ula through Makakupa'ia, and Mahana. Have the cooperative manage the game management area. Encourage the Moloka'i Homesteaders Livestock Association to work with DHHL, DLNR, and the homesteaders to come up with a new hunting management plan as recommended in the 1983 Kalama'ula Development Plan by the end of September 1994.[49] DLNR will write a letter to the Moloka'i Homesteaders Livestock Association and a copy to DHHL and members of the Moloka'i Subsistence Task Force to meet to discuss the game management program.

6. Moloka'i Subsistence Advisory Committee

The Governor's Moloka'i Subsistence Task Force, having completed its work and finalized this report, was officially disbanded on June 29, 1994. It was recommended that a Moloka'i Subsistence Advisory Committee be established to advise the Department of Land and Natural Resources on issues relating to the implementation of this report. It should include representatives of subsistence hunting, fishing, and gathering practitioners, including the la'au lapa'au practitioners. The advisory committee could also meet with the Maui County Fish and Wildlife Committee to obtain support for the implementation of the Moloka'i Subsistence Task Force Report.



[49] Department of Hawaiian Home Lands. June 1983. Kalama'ula Development Plan. Honolulu: Phillips, Brandt, Reddick, and Associates, Inc.

10. Implications of Findings for Subsistence on Other Islands

Hi'ipoe I Ka 'Āina Aloha. Cherish the beloved land. Aloha 'āina. The land will nurture the 'ohana which respects and cares for it. Our kūpuna leave with us this same thought, saying: " E mālama pono i ka 'āina; nāna mai ke ola. Take good care of the land; it grants you life."

Aunty Edith Kanaka'ole, kupuna, kumu hula, Hawai'i.

Closing

Throughout the islands of Hawai'i, we find subsistence thriving in rural communities of Hawaiian cultural continuity. This is because Hawaiians continued to practice aloha 'aina/kai and malama 'aina/kai thereby sustaining the resources of the lands of their ancestors. In addition, because these rural communities were bypassed by the mainstream of economic, political, and social development, they needed to practice subsistence for economic survival. Thus, the natural resources sustained a subsistence lifestyle and a subsistence lifestyle protected the natural resources.

The rural communities on all of the Hawaiian islands face pressures similar to Moloka'i. As plantation agriculture phases out, tourism or largescale industry is promoted as a replacement. Newcomers don't adhere to Hawaiian subsistence values and practices such as observing a kapu during spawning seasons of marine life and only taking what the family needs for direct consumption. Newcomers and local people from other islands whose resources have been depleted compete with rural Hawaiians for resources. Where tourism has not led to the degradation of the natural ecosystems in rural areas, there has often been overharvesting of resources. Commercial harvesting of ocean, forest, and even hunting resources has led to a serious decline of certain fishing grounds, forests, and deer herds. The overall result is a decline of the natural resources upon which subsistence practitioners depend.

The persistence of subsistence activities as a significant sector of the economy of rural communities is still not acknowledged by government policymakers and private economists. Yet subsistence has seen many families through hardship after hardship.

Other rural areas could benefit from the process undertaken by the Governor's Moloka'i Subsistence Task Force. It is important to identify trends in the subsistence sector of the economy. Rural communities need to identify the important resources which must be protected through new rules and regulations. Traditional Hawaiian subsistence values, customs, practices, and kapu need to be revived, taught and practiced throughout rural communities, regardless of ethnic background. As educational programs and materials are developed on Moloka'i, they can be shared with other communities.

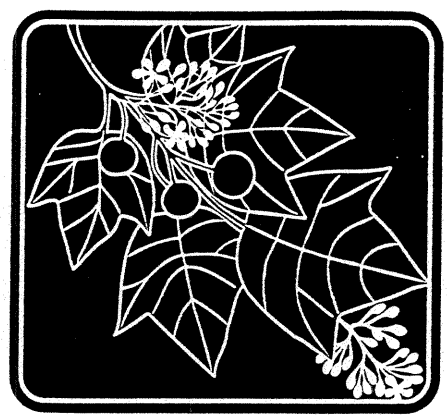
Communities should be encouraged to adopt new rules and regulations suited to their needs. They should be encouraged to become resource managers and stewards of their ancestral resources which is part of the cultural legacy.

The Department of Business and Economic Development needs to recognize subsistence as an important sector of the economy in Hawai'i's rural areas and adopt a policy of protecting subsistence areas from the negative impacts of economic growth. The concept of community-based subsistence fishing areas should be

expanded to include protection of coastal areas and forests, perhaps as Cultural Area Reserves, similar to the existing Natural Area Reserve System. Strategies for economic development should be able to co-exist and not destroy the natural resources necessary for subsistence in rural areas.

Actions taken today will determine the health and quality of life of our future generations in Hawai'i.

'Au'a ia e kama, e kama e 'au'a ia.
Hold steadfastly to the land child, child hold steadfastly on to the land.



APPENDIX I.

TELEPHONE SURVEY QUESTIONNAIRE

MOLOKAI SUBSISTENCE STUDY

MOLOKAI SUBSISTENCE STUDY

Questionnaire Number: _____

Interviewer: _____

Respondent's Name: _____

Respondent's Telephone Number: _____

Date/Time of Interview: _____

INTERVIEW REQUEST STATEMENT

Hello. My name is _____. I am calling to request your help with a survey about subsistence fishing, hunting, gathering, and planting on Molokai. The study is being conducted by the Molokai Subsistence Task Force made up of Molokai people who fish, hunt, and gather, together with the University of Hawai'i and the State of Hawai'i. The study will provide critical information to government and Molokai community agencies for the purpose of future planning about how to support subsistence on Molokai. Your responses will be kept strictly confidential.

* Would it be possible to interview you now?

* If not, when would be a convenient time?

Date _____ Time _____

Place _____

If the interview was <u>not</u> conducted with the selected housing unit, explain why.

(1) Contact person refused ____

(2) No contact was made after at least 3 attempts

____

a. Explain:

Definition of subsistence on Molokai (read to respondent):

The customary and traditional uses by Molokai residents of wild and cultivated renewable resources for direct personal or family consumption as food, shelter, fuel, clothing, tools, transportation, culture, religion, and medicine; for barter, or sharing, for personal or family consumption; and for customary trade.

I.1. Which of the following subsistence activities have you or your family engaged in while living on Molokai? (Check as many that apply)

Activities:		Number in House
A.	Deep-sea Fishing (from boat)	____
B.	Reef or Shoreline Pole Fishing	____
C.	Diving	____
D.	Hunting	____
E.	Gathering Ocean Resources (e.g., limu, opihi)	____
F.	Gathering Land Resources (e.g., plants, fruits)	____
G.	Gathering from Streams	____
H.	Gardening	____
I.	Fishpond/Aquaculture	____
J.	Raising Livestock	____

2. If respondent does not do any of the above activities, ask why not.

A.	Too busy	____
B.	Too old	____
C.	Disabled	____
D.	Not interested	____
E.	Rely on others	____
F.	Other _____	

3. About how many times a month do other people on Molokai give your family receive food like fish, meat, or limu that they have caught, gathered, or grown themselves?

_____

4. Overall, how important is subsistence to your family? (Read scale)

Very Important	Somewhat Important	Somewhat Unimportant	Not at all Important
1	2	3	4

5. About what percent of your family's food comes from subsistence activities (fishing, hunting, gathering, raising animals, cultivation)?

_____ %

6. Do you ever use the resources you get from subsistence for any of the following activities: (Ask each item and check if "yes")

A. Sharing/Gift-Giving ____
B. Exchange/Trade ____
C. Sale ____
D. Restock ____
E. Other ____

7. Does subsistence benefit you and your family in any of the following ways: (Ask each item and check if "yes")

A. Carry on the Culture ____
B. Family Togetherness ____
C. Spiritual Well-Being/Religion ____
D. Exercise/Health/Diet ____
E. Recreation ____
F. Medicine ____
G. Education ____
H. Leis, Decorations, & Crafts ____
I. Other ____
explain:

8. Do you use subsistence resources for special occasions?

A. Yes ____
B. No ____ (If No, go to next section)

9. What special occasions do you collect for? (Check as many that apply)

A. Anniversary parties ____
B. Birthdays ____
C. Funerals ____
D. Graduations ____
E. Holiday celebrations ____
F Luau ____
G. Reunions ____
H. Weddings ____
I. One Year Anniversary of Death ____
J. Blessing Something Newly Built ____
K. Other ____

10. Do you collect food from the ocean or land for people from other islands?

A. Yes ____
B. No ____

11. When you go fishing, hunting, or gathering, how often do you take people from off-island with you?

Always	Often	Rarely	Never
1	2	3	4

II.1. Do you fish?

A. Yes ____
B. No ____ (if No, go to next section)

2. Where do you usually go fishing? (Check as many that apply)

A. Kalaupapa to Ilio Point ____
B. Ilio Point to La'au Point ____
C. La'au Point to Kaunakakai ____
D. Kaunakakai to Makakupai'a ____
E. Makakupai'a to Honouliwai ____
F. Honouliwai to Halawa ____
G. Halawa to Kalaupapa ____
H. Kalaupapa ____
I. Other _____

3. About how many days in the past year did you fish? _____
(calculate from a year prior to when interview is conducted; calculate number of days in a year from monthly estimates)

4. Does this number represent a typical number of days you fish every year?

A. Yes ____
B. No ____ (If No, why?)

5. During which season of the year do you do the most fishing?

A. Summer (June - August) ____
B. Fall (September - November) ____
C. Winter (December - February) ____
D. Spring (March - May) ____

6. Name the types of fish you generally catch: (Limit to top 5)

Awa	____	Marlin/Kajiki	____
Akule	____	Menpachi/U'u	____
Aholehole	____	Moana	____
Ahi	____	Moi	____
Aku	____	Mu	____
Aweoweo	____	Mullet	____
Enenui	____	Nabeta	____
Hage	___	Oio	____
Enenui	____	Onaga	____
Hage	____	Ono	____
Hinalea	____	Opakapaka	____

Kahala	____	Opelu	____
Kaku	____	Palani	____
Kala	____	Papio/Ulua	____
Kawakawa	____	Rainbow Runner	____
Kole	____	Taape	____
Kumu	____	Toau	____
Kupipi	____	Uhu	____
Lai	____	Weke	____
Lai	____	Uouoa	____
Mahimahi	____	Other _____	
Mamo	____		
Manini	____		

7. What method do you use to catch fish? (Check as many that apply)

A. Pole

1. Dunking from shore ____
2. Whipping from shore ____
3. Trolling from boat ____
4. Dunking from boat ____

B. Net ____

1. Throw net ____
2. Set net ____
3. Surround net ____
4. Scoop net ____
5. Hukilau ____

C. Spear ____
D. Hands (diving) ____
E. Bullpen ____
F. Wire traps ____
G. Other ____

III.1. Do you gather other resources from the ocean?

A. Yes ____
B. No ____ (If No, go to next section)

2. Where do you usually gather from the ocean? (Check as many that apply)

A. Kalaupapa to Ilio Point ____
B. Ilio Point to La'au Point ____
C. La'au Point to Kaunakakai ____
D. Kauanakakai to Makakupai'a ____
E. Makakupai'a to Honouliwai ____
F. Honouliwai to Halawa ____
G. Halawa to Kalaupapa ____
H. Kalaupapa ____
I. Other _____

3. About how many days in the past year did you gather resources from the ocean? (Calculate from a year prior to when interview is conducted; calculate number of days in a year from monthly estimates)

_____

4. Does this number represent a typical number of days you gather from the ocean every year?

A. Yes ____
B. No ____ (If No, why?)

5. During which season of the year do you do the most ocean gathering?

A. Summer (June - August) ____
B. Fall (September - November) ____
C. Winter (December - February) ____
D. Spring (March - May) ____

6. Name the types of resources you gather from the ocean: (Check as many that apply)

Crab/Papa'i ____
He'e/Squid ____
Kupe'e ____
Leho ____
Lobster/Ula ____
Opihi ____
Pipipi ____
Salt ____
Sea Cucumber/Loli ____
Shrimp/Opae ____
Sea Cucumber/Loli ____
Wana/Sea Urchin ____
Other _____

IV.1. Do you hunt?

A. Yes ____
B. No ____ (If No, go to next section)

2. About how many days in the past year did you hunt?
(calculate from a year prior to when interview is conducted)

_____

3. Does this number represent a typical number of days you hunt every year?

A. Yes ____
B. No ____ (If No, why?)

4. During which season of the year do you do the most hunting?

A. Summer (June - August) ____
B. Fall (September - November) ____
C. Winter (December - February) ____
D. Spring (March - May) ____

5. Name the types of animals you hunt:

Axis Deer ____
Birds ____
Goats ____
Pig ____
Other _____

6. Where do you usually go hunting?

A. West End ____
B. Forest Reserve Area ____
C. East End (including Pakakai) ____
D. Back Side ____
E. Kalaupapa ____
F. Other ____

7. What methods do you use to hunt? (Check as many that apply)

A. Gun/rifle ____
B. Bow ____
C. Dogs/knife ____
D. Traps ____

V.1. Do you gather wild plants or fruits from the land?

A. Yes ____
B. No ____ (If No, go to next section)

2. Where do you usually gather from the land?

A. West End ____
B. Forest Reserve Area ____
C. East End ____
D. Backside ____
E. Kalaupapa ____
F. Other _____

3. About how many days in the past year did you gather wild plants/fruits? (calculate from a year prior to when interview is conducted; calculate number of days in a year from monthly estimates)

_____

4. Does this number represent a typical number of days you gather wild plants/fruits every year?

A. Yes ____
B. No ____ (If No, why?)

5. During which season of the year do you do the most gathering?

A. Summer (June - August) ____
B. Fall (September - November) ____
C. Winter (December - February) ____
D. Spring (March - May) ____

6. Name the types of wild plants/fruits you gather from the land: (Limit to top 5)

A'ali'i	____	Kou	____
Ahinahina	____	Kukui	____
Akala	____	Laukahi	____
Ahuhu	____	Liko/Lehua	____
Alahee	____	Lilikoi	____
Alae	____	Loulu	____
Awa	____	Maile	____
Banana/Maia	____	Mangrove	____
Guava	____	Maunaloa	____
Hala	____	Memake	____
Hapu'u/Ferns	____	Milo	____
Hau	____	Niu	____
Ha'uwi	____	Noni	____
Ho'io	____	Oranges	____
Ili-ahi/Sandalwood	____	Papaya	____
Ilima	____	Paria	____
Kaunaoa	____	Pepeiao	____
Kiawe	____	Plum	____
Koa	____	Popolo	____
Koali	____	Ti Leaf/root	____
Kookoolau	____	Uhaloa	____
Other _____		Ulu	____

VI.1. Do you gather from streams?

A. Yes ____
B. No ____ (If No, go to next section)

2. Where do you usually gather from streams?

A. Waialua ____
B. Honouliwai ____
C. Honoulimaloo ____
D. Halawa ____
E. Wailau ____
F. Pelekunu ____
G. Waikolu ____
H. Other _____

3. About how many days in the past year did you gather from streams? (calculate from a year prior to when interview is conducted; calculate number of days in a year from monthly estimates)

_____

4. Does this number represent a typical number of days you gather from streams every year?

A. Yes ____
B. No ____ (If No, why?)

5. During which season of the year do you the most gathering from streams?

A. Summer (June - August) ____
B. Fall (September - November) ____
C. Winter (December - February) ____
D. Spring (March - May) ____

6. Name the types of things you gather from streams: (Check as many that apply)

Aholehole ____
Crabs ____
Frogs ____
Hihiwai ____
Mullet ____
Opae ____
O'opu ____
Prawns ____
Pupu ____
Uouoa ____
Other _____

VII. Do you grow plants or fruits for food for your family?

A. Yes ____
B. No ____

VIII.1. Do you raise animals for food for your family?

A. Yes ____
B. No ____ (If No, skip to question X)

2. What animals do you raise?

A. Poultry
   1. meat ____
   2. eggs ____
   3. fighting cocks ____

B. Cattle ____
C. Deer ____
D. Dogs ____
E. Goats ____
F. Pigs ____
G. Rabbits ____

IX. Are there any problems or activities that interfere with your ability or ability to subsist on Molokai?

A. Yes ____
B. No ____ (If No, go to next section)

X. How would you rate the following as a problem on Molokai as they impact on subsistence (1 to 4 scale)?

1 = Serious
2 = Somewhat of a problem
3 = Not much of a problem
4 = Not a problem

B.	People from Molokai who take too much	1 2 3 4
C.	Off-island people who take too much	1 2 3 4
D.	Pollution	1 2 3 4
E.	Overdevelopment	1 2 3 4

F.	Erosion/soil runoff	1 2 3 4
G.	Lack of access/restricted areas/private property	1 2 3 4
H.	Misuse	1 2 3 4
I.	Waste of resources	1 2 3 4
J.	Lack of law enforcement	1 2 3 4
K.	Taking of undersize juveniles	1 2 3 4
L.	Commercialization	1 2 3 4
M.	Other _____	1 2 3 4

XI. Overall, how important do you think subsistence is to the lifestyle of people of Molokai?

Very Important	Somewhat Important	Somewhat Unimportant	Not at all Important
1	2	3	4

XII. What are the 3 things you would like to see done to improve subsistence on Molokai?

_____

_____

_____

DEMOGRAPHICS

1. Age _____ 2. Gender (1) M ___ (2) F ___

3. Ethnic/Racial Background

(1)	Caucasian	____
(2)	Chinese	____
(3)	Filipino	____
(4)	Japanese	____
(5)	Korean	____
(6)	Native Hawaiian	____ *
(7)	Pacific Islander	____
(8)	Portuguese	____
(9)	Multiple Ethnic (Non-Hawaiian)	____
(10)	Other	____

* Full or part

4. District of residence

(1)	Mauna Loa/Kaluako'i	____
(2)	Ho'olehua	____
(3)	Kualapu'u/Kalae/Kipu	____
(4)	Kalama'ula/Kaunakakai	____
(5)	Kaunakakai/Kawela	____
(6)	East End (Mana'e)	____
(7)	Halawa/North Shore	____
(8)	Kalaupapa	____
(9)	Other	____

5. Place of Birth

(1) Molokai ____
(2) Other Hawaiian Island ____
specify _____

(3) American Mainland ____
(4) Philippines ____
(5) Other Foreign Country ____
specify _____

6. Where did you spend most of your first 18 years growing up?

(1) Molokai ____
(2) Other Hawaiian Island ____
(3) American Mainland ____
(4) Philippines ____
(5) Other Foreign Country ____

specify _____

7. How many years have you lived in the state of Hawai'i?

_____

8. How many years have you lived on Molokai? _____

9. What is the highest level of formal education you have completed?

(1) less than grade school ____
(2) grade school (6 years) ____
(3) intermediate school ____
(4) high school (12 years) ____
(5) college ____
(6) graduate school ____

10. Where do you work? _____

11. How many people are living in your home? _____

a. How many children (17 years or younger) are living in your home? _____

b. How many adults (18 years or older) are living in your home? _____

c. How many families are living in your home? _____

12. What is your current marital status?

(1) Single ____
(2) Married ____
(3) Living with partner ____

13. Which of the following income ranges do you fall into?

(1) 0- 9,999 ____
(2) 10,000-19,999 ____
(3) 20,000-29,999 ____
(4) 30,000-39,999 ____
(5) 40,000-49,999 ____
(6) 50,000-59,999 ____
(7) 60,000 +

APPENDIX II.

DEMOGRAPHIC TABLE OF TELEPHONE SURVEY RESPONDENTS

Age: M = 45 years

Gender:

	Number	Percent
Male	120	49
Female	125	51

Ethnic/Racial Background:

	Number	Percent
Caucasian	56	23
Chinese	4	1
Filipino	46	19
Japanese	19	8
* Native Hawaiian	105	42
Portuguese	2	1
Multiple Ethnic (Non-Hawaiian)	10	4
Other	6	2

* Full or part

District of residence:

	Number	Percent
Mauna Loa/Kaluako'i	20	8
Ho'olehua	33	13
Kualapu'u/Kalae/Kipu	27	11
Kalama'ula/Kaunakakai	52	21
Kaunakakai/Kawela	60	24
East End (Mana'e)	51	20
Hālawa/North Shore	1	.5
Kalaupapa	6	2.5
Other		

Place of Birth:

	Number	Percent
Moloka'i	64	26
Other Hawaiian Island	84	34
American Continent	64	26
Philippines	28	11
Other Foreign Country	7	3

Where did you spend most of your first 18 years growing up?

	Number	Percent
Moloka'i	93	38
Other Hawaiian Island	65	26
American Continent	58	24
Philippines	28	11
Other Foreign Country	3	1

How many years have you lived in the state of Hawai'i?

M = 33 years

How many years have you lived on Moloka'i?

M = 24

What is the highest level of formal education you have completed?

	Number	Percent
(1) less than grade school	4	1.5
(2) grade school (6 years)	8	2.5
(3) intermediate school	16	6
(4) high school (12 years)	141	57
(5) college	62	25
(6) graduate school	17	7

How many people are living in your home?

M = 3.6

How many children (17 years or younger) are living in your home?

M = 2.3

How many adults (18 years or older) are living in your home?

M = 2.3

How many families are living in your home?

M = 1.1

What is your current marital status?

	Number	Percent
Single	62	25
Married	169	70
Living with partner	12	5

Which of the following income ranges do you fall into?

		Number	Percent
(1)	0- 9,999	70	30
(2)	10,000-19,999	37	16
(3)	20,000-29,999	41	18
(4)	30,000-39,999	46	20
(5)	40,000-49,999	12	5
(6)	50,000-59,999	11	5
(7)	60,000 +	14	6

APPENDIX III.

LEGAL BASIS FOR TRADITIONAL HAWAIIAN ACCESS

Native Hawaiian ahupua'a tenant rights, particularly for gathering and access are derived from three sources: (1) Hawai'i Revised Statutes (HRS) 1-1, (2) HRS 7 - 1, and (3) Article XII. Section 7 of the Hawai'i State Constitution.

Section 1-1 Common Law & Hawaiian Usage

This section reads as follows:

> The common law of England, as ascertained by English and American decisions, is declared to be the common law of the State of Hawai'i in all cases, except as otherwise expressly provided by the Constitution or laws of the United States, or by the laws of the State, or fixed by Hawaiian judicial precedent, or established by Hawaiian usage; provided that no person shall be subject to criminal proceedings except as provided by the written laws of the United States or of the State.

The notes included in the Hawai'i Revised Statutes regarding this section provide crucial clarifications and conditions accepted by the Supreme Court regarding "Hawaiian usage" rights. These are:

> **(1) "Hawaiian usage" must predate November 25, 1892.** (58 H. 106, 566 P. 2d 725.)
>
> (2) Where practices have, without harm to anyone, been continued, reference to Hawaiian usage in this section insures their continuance for so long as no actual harm is done thereby. Retention of a Hawaiian tradition should in each case be determined by balancing respective interests and harm once it is established that application of the custom has continued in a particular area. (66 H. 1, 656 P. 2d 745.)

HRS 7 - 1

> Where the landlords have obtained, or may hereafter obtain, allodial titles to their lands, the people on each of their lands shall not be deprived of the right to take firewood, house-timber, aho cord, thatch, or ki leaf, from the land on which they live, for their own private use, but they shall not have a right to take such articles to sell for profit. The people shall also have a right to

drinking water, and running water, and the right of way. The springs of water, running water, and roads shall be free to all, on all lands granted in fee simple; provided that this shall not be applicable to wells and watercourses, which individuals have made for their own use.[50]

3. Article XII. Section 7.

Ahupua'a tenant rights were further expanded in 1978 by the Hawai'i State Constitutional Convention when it included Article XII. Section 7 in the Hawai'i State Constitution which reads as follows:

> The State reaffirms and shall protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by ahupua'a tenants who are descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778, subject to the right of the State to regulate such rights."[51]

HAWAI'I SUPREME COURT RULINGS EXPANDING ACCESS

Kalipi Case - Reaffirmed Ahupua'a Tenant Rights

The Hawai'i State Supreme Court first dealt with the subject of Native Hawaiian gathering rights in Kalipi v. Hawaiian Trust Co., (66 Haw. 1, 656 P. 2d 745 (1982). [52] In that case, the Supreme Court held that such gathering rights are derived from the three sources discussed above, HRS 7-1 and 1-1 (1985) and Article XII. Section 7 of the Hawai'i State Constitution. In Kalipi, the Supreme Court held that lawful residents of an ahupua'a may, for the purposes of practicing Native Hawaiian customs and traditions, enter undeveloped lands within the ahupua'a to gather the items enumerated in HRS 7-1. However, those rights are limited to the five items enumerated in HRS 7 - 1, i.e. firewood, house-timber, aho cord, thatch, and ki leaf.

The Supreme Court also held that it is obligated "to preserve and enforce such traditional rights" under Article XII. Section 7 (66 Haw. at 4, 656 P. 2d at 748). The Kalipi court further stated that HRS 1-1 ensures the continuation of other Native Hawaiian customs and traditions not specifically enumerated in HRS 7 - 1

---

50 Haw. Rev. Stat. sec. 7--1 (1985)

51 Hawai'i Constitution, Article XII, Section 7.

52 This summary of the actions of the Hawai'i State Supreme Court regarding Native Hawaiian gathering and access rights is taken from the Opinion of the Intermediate Court of Appeals of the State of Hawai'i, No. 15460 in Public Access Shoreline Hawai'i v. Hawai'i County Planning Commission, Civ. No. 90 - 293K, January 28, 1993, Judges Burns, C.J., Heen, and Watanabe, J.J., hereinafter referred to as the PASH ruling.

that may have been practiced in certain ahupua'a "for so long as no actual harm is done thereby." It noted, "The retention of a Hawaiian tradition should in each case be determined by balancing the respective interests and harm once it is established that the application of the custom has continued in a particular area." (Id. at 10, 656 P. 2d at 751).

Pele Case - Access Extended Beyond Ahupua'a

The Supreme Court again ruled on Native Hawaiian gathering rights in the case of Pele Defense Fund v. Paty, (73 Haw. 578, 837 P.2d 1246, 1992). In this case, the Supreme Court further expanded the rights established in Kalipi. [53] In Pele, the Supreme Court explained that, although in Kalipi it had recognized the gathering rights of Native Hawaiians under HRS 7 - 1, Kalipi allowed only the residents of an ahupua'a to exercise those rights on undeveloped lands within the ahupua'a. However, based on the record of the Constitutional Convention of 1978 which promulgated Article XII. Section 7, the Supreme Court held in Pele that the provision should not be narrowly construed. Accordingly, in Pele the Supreme Court held that "Native Hawaiian rights protected by Article XII. Section 7, may extend beyond the ahupua'a in which a Native Hawaiian resides where such rights have been customarily and traditionally exercised in this manner." (73 Haw. at 620, 837 P. 2d at 1272).

PASH Case - Access As A Condition Of Development Permits

In 1993, the Hawai'i State Intermediate Court of Appeals reviewed and made a ruling on Native Hawaiian gathering rights in Public Access Shoreline Hawai'i (PASH) v. Hawai'i County Planning Commission (No. 15460, Civ. No. 90-293K). The Intermediate Court of Appeals ruled that Article XII, Section 7 imposes on a government agency the same obligation to preserve and protect Native Hawaiian rights as it does on the court. It also took up the issue of what happens to Native Hawaiian gathering rights when development occurs in the area used for gathering. Kalipi and Pele only guaranteed access to undeveloped lands and did no require that any land be held in their natural state for the exercise of Native Hawaiian rights. [54] The court further noted that Kalipi and Pele did not discuss the question of what happens to those gathering rights in a situation where the property owner wishes to develop his property. Therefore, the Intermediate Court went a step further and made the following ruling, "It is our view, in light of Article XII. Section 7, that all

---

53 PASH ruling, p. 10.

54 In Pele, 73 Haw. at 621 n. 36, 837 P. 2d at 1272 n. 36. The Kalipi court noted: "The requirement that these rights be exercised on undeveloped land is not, of course, found within the statute. However, if this limitation were not imposed, there would be nothing to prevent residents from going anywhere within the ahupua'a, including fully developed property, to gather the enumerated items. In the context of our current culture this result would so conflict with understandings of property, and potentially lead to such disruption, that we could not consider it anything short of absurd and therefore other than that which was intended by the statute's framers. Kalipi v. Hawaiian Trust Co., 66 Haw. 1, 8, 656 P.2d 745, 750 (1982).

government agencies undertaking or approving development of undeveloped land are required to determine if Native Hawaiian gathering rights have been customarily and traditionally practiced on the land in question and explore the possibilities for preserving them." The court stated that on remand, it may be possible for the Hawai'i County Planning Commission to impose some reasonable conditions on the permit to protect the Native Hawaiian rights where those conditions would not cause actual harm. It qualified this by adding in a footnote that the Commission is not compelled to do so, since the property will no longer be undeveloped lands.[55]

---

55 PASH ruling, p. 13. Upon appeal to the Hawai'i State Supreme Court for certiori review of the PASH ruling, the Supreme Court agreed to review three issues: (1) whether an agency is obligated to preserve and protect Native Hawaiian rights as is the court, (2) the criteria for assessing impacts on Native Hawaiian gathering rights, and (3) whether or not the condition on the property owner to protect Native Hawaiian gathering rights constitutes a "taking". The Supreme Court will render a ruling in late 1993.

APPENDIX IV.

July 15, 1994

Keith W. Ahue
Chairperson
Board of Lands and Natural Resources
1151 Punchbowl St.
Honolulu, Hawai'i 96813

Dear Mr. Ahue:

Aloha. The Moloka'i Subsistence Task Force requests The Department of Land and Natural Resources to initiate the rule-making procedure under Chapter 91 to implement special policies to protect the marine resources of Moloka'i.

In February 1993, Governor John Waihee appointed the Moloka'i Subsistence Task Force to document how important subsistence is to Moloka'i families and how much of the families' food comes from subsistence. The task force was also asked to determine the problems which are making it harder to do subsistence fishing, hunting, and gathering on Moloka'i and to recommend policies and programs to make it better. We are enclosing a copy of the final report of our task force. It describes the process we carried out over the past year and a half, in close consultation with subsistence practitioners on the island, to come up with the suggested policy changes.

Some of the resources for which we are making the recommendations are currently regulated under the Hawai'i Fishing Regulations in Chapter 13 of the Hawai'i Administrative rules. Implementing our proposed policies would require the holding of public hearings to either amend the existing rules or to create a special set of administrative rules applicable to Moloka'i.

The following are the recommendations which we would like to have implemented:

A. 'Opihi (Chapter 13 - 92)

There shall be no gathering of 'opihi on Moloka'i for commercial sale.

B. Crabbing (no existing rule)

There shall be no gathering of 'ala'eke, kuhonu, and 'a'ama crabs from the wild on Moloka'i for commercial sale.

C. He'e (Chapter 13 - 86)

The gathering of he'e in the waters around Moloka'i shall be kapu in the month of September.

F. Netting

1. Prohibit gill nets and lobster nets, on Moloka'i. (only in HRS 188-29)

2. Limit the penning of akule in the waters surrounding Moloka'i to no longer than 8 hours. (no existing rule)

3. Initiate a license system for bull pen fishing on Moloka'i. This will grandfather in those who have been doing bull pen for generations. Not more than five licenses would need to be issued. Those who are licensed would have to mark their nets with their number and identification. Gradually will phase out bull pen fishing altogether. (only in HRS 188-28.5)

In addition, the number of DOCARE and marine patrol personnel for Moloka'i should be increased from its current level. Our task force members are available to work with your aquatics education staff to develop educational materials to help increase peer pressure for compliance with the Hawai'i fishing regulations as they exist and as we are recommending that they be amended.

Thank you for your cooperation with us. Please contact us and Mr. Bill Puleloa if you have any questions and to provide assistance in setting up the public hearings. Dona can be reached at 587 - 0392 (ph) or 587-0390 (fax) or DLNR / P.O. Box 621 / Honolulu, Hawai'i 96809. Mac can be reached at 567-6525 (Ho'olehua Fire Station, leave message) or P.O. Box 173 / Kualapu'u, Hawai'i 96757.

Sincerely

Dona Hanaike Kelson "Mac" Poepoe
for the Governor's Moloka'i Subsistence Task Force

cc: Henry Sakuda, Administrator, Division of Aquatic Resources
Moloka'i Subsistence Task Force

APPENDIX V. a

AGREEMENT TO PARTICIPATE

Moloka'i Study on Attitudes and Behaviors Concerning Subsistence Practices

Jon K. Matsuoka, Ph.D.
University of Hawai'i
School of Social Work
2500 Campus Road
Honolulu, HI 96822
(808) 956-6123

We are asking you to participate in a study on subsistence practices on the island of Moloka'i. During the forthcoming interview we will be asking you to provide information in response to questions or items that pertain to your feelings, opinions, knowledge, and behaviors associated with subsistence practices such as fishing, hunting, and gathering. The information that we gather for this study will be analyzed to provide us with a better picture of Moloka'i values, lifestyles, and traditional subsistence patterns and provide a significant database that can be incorporated into future planning efforts.

We will be asking you many questions. Your answers will be kept strictly confidential. If at any time you feel uneasy with a question you are asked, please tell the interviewer and feel free to pass up the question and to go to the next one. The interview generally takes about 1 hour.

I certify that I have been told of possible risks involved in this project, like the loss of privacy and the possibility of feeling upset when asked to respond to certain things, that I have been given satisfactory answers to my questions concerning project procedures and other matters and that I have been advised that I am free to withdraw my consent and to stop my participation in the project or activity at any time.

I herewith give my consent to participate in this project with the understanding that such consent does not waive any of my legal rights, nor does it release the principal investigator or the institution or any employee or agent thereof from liability for negligence.

_____ _____

Signature of Individual Participant Date

(If you cannot obtain satisfactory answers to your questions or have comments or complaints about your treatment in the study, contact: Committee on Human Studies, University of Hawai'i, 2540 Maile Way, Honolulu, HI 96822, Telephone: 956-8658)

cc: Signed copy to Subject

APPENDIX V. b

PARTICIPANTS' PROFILE FORM

Name: _____ Number of People In Your Household: _____

Activity	How many people (family and friends) benefit from your activity?	How often do you do this activity monthly?	How many years have you done this activity?	Who taught you? Relation to you?	How many generations in your family have done this?	For what reasons do you do this activity?
Hunting						
Fishing						
Gathering (Ocean)						

Activity	How many people (family and friends) benefit from your activity?	How often do you do this activity monthly?	How many years have you done this activity?	Who taught you? Relation to you?	How many generations in your family have done this?	For what reasons do you do this activity?
Gathering (Forest)						
Gardening						
Raising Animals						

APPENDIX V. c

AGENDA FOR FOCUS GROUPS

1. Fill out subsistence information charts

2. Explain the importance of subsistence to Moloka'i families/'ohana

    How many people benefit?
    How many generations have relied on subsistence?
    How does subsistence contribute to family economics, togetherness, and passing on of culture?

3. Identify Important Natural Resource Areas For Subsistence (Mapping)

4. Identify Problems and Obstacles To Subsistence On Moloka'i

5. Recommend Policies To Support Subsistence On Moloka'i

FISHING: PROBLEMS AND CONCERNS

____ Off-island people take too much.

____ Overuse: overfishing of reefs and entire ocean.

____ Competition between subsistence and commercial use of the resources.

____ Violation of laws and regulations and inadequate law enforcement.

____ Changing attitudes and values. Loss of aloha 'aina/kai and malama 'aina/kai practices.

____ Greediness: there is less sharing and more keeping for themselves.

____ People have forgotten the kapu and the purpose of the kapu.

____ Values changed from stewardship to "take as much as you can get now or else someone else will get it before you come back the next time"

____ Confusion over jurisdiction of lands of DLNR and Hawaiian Homes.

____ Pollution.

____ Fishnet size is too small.

____ Too much use of lay nets.

____ Too much access to certain areas. Getting fished out.

____ Lack of access to certain good fishing grounds.

Additional problems and concerns:

FISHING: RECOMMENDED POLICIES

____ Re-educate people on the purpose of certain kapu and use traditional kapu as a conservation measure.

____ Educational programs (e.g. teaching children, immigrants, etc.) using videos, television and radio spots, outreach in the schools.

____ Set aside areas as sanctuaries with special regulations.

____ Promote the making of fish hatcheries to supplement depleted wild stocks.

____ Rotate enforcement officers from other islands.

____ Incentive programs for community enforcement, let the users do the policing.

____ Bag Limit.

____ Instead of bag limit learn the life cycle of the fish and the best time to harvest. The bag limit doesn't take into account family size and their level of need.

____ Bag limit with special permit for special occasions.

____ No commercial sale of 'opihi.

____ Correct contradictory law of commercial fishermen being allowed to catch any amount when individual can catch only 20 (papio).

____ Create limits or restrictions to off island people.

____ Off island people should only be allowed to fish when accompanied by Moloka'i residents.

____ On areas accessed through Hawaiian Home lands have preference to beneficiaries and those accompanied by beneficiaries.

____ Ocean fronting Hawaiian Homelands should be designated as reserved for beneficiaries and those accompanied by beneficiaries.

HUNTING: PROBLEMS AND CONCERNS

____ Off island people take too much

____ Lack of access to private lands

____ Overuse of public lands

____ Sport and commercial vs. subsistence hunting

____ Changing habitat

____ Use of snares

____ Inaccessible uplands infested with deer, goat, and pigs

____ No sharing of resources between private landowners and hunters

____ Limit on deer on Moloka'i Ranch land

____ Liability concerns of private landowners

HUNTING: RECOMMENDED POLICIES

____ No commercial selling of venison.

____ Restrict use of aerial eradication.

____ Preference system for hunting (1) If on Hawaiian Homelands, beneficiaries (2) Moloka'i residents (3) Off-island.

____ Reserve hunting activities for beneficiaries and those accompanied by beneficiaries on Hawaiian Homelands.

____ Create incentive for hunters and landowners to work together (i.e. hunters help with fencing, get rid of weeds, clean access roads, repair water pipes; while landowners allow access to licensed hunters.

____ Control overpopulation of feral animals affecting native forest and all biota

____ Provide easier hunting access to forested areas by allowing hunters to stay overnight in hunting lodges.

____ Open new trails to make higher areas accessible.

____ Use snares in steep, high regions along with hunters as a management tool.

____ Restrict use of snares because it is wasteful.

FOREST GATHERING: PROBLEMS AND CONCERNS

____ Unclear rules regarding Article XII. Section 7 access rights for Native Hawaiians and HRS 7 - 1 ahupua'a access rights and Section 1-1 use and custom access rights.

____ Forest restoration with native species.

____ Need rules for gathering.

____ Other:

FOREST GATHERING: RECOMMENDED POLICIES

____ Require a license to gather.

____ Allow for traditional use in conservation areas.

____ Educate people on how to gather

____ Educate people on rights under Article XII Section 7 of the constitution, under HRS 7-1, and Section 1-1.

____ Encourage traditional stewardship in the community through cultivation and harvesting native plants in a certain area. "Adopt a Forest" program.

____ Forest stewardship on private and state lands.

____ Other:

OCEAN GATHERING: PROBLEMS AND CONCERNS

____ Overuse

____ Misuse

____ Pollution

____ Other:

OCEAN GATHERING: RECOMMENDED POLICIES

____ Non-commercial/restricted use of crab and limu.

____ No commercial sale of 'opihi.

____ No commercial sale of certain crab.

____ Cultivate limu and shellfish.

____ Find sources of contamination in shellfish

____ Stop sewage leakage

____ Other:

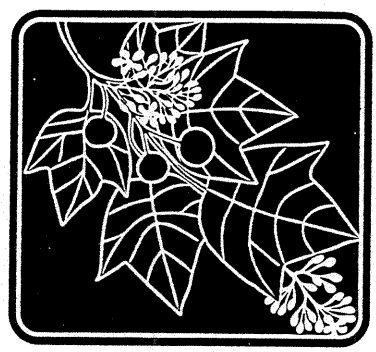
CULTIVATION: RECOMMENDED POLICIES

____ No third party leases. The big guys drain too much water for crops.

____ Provide training on equipment use.

____ Supply plant stock, particularly seed stock for native plants for lā'au.

____ Other:



APPENDIX VI.

FOCUS GROUP MEMORIES

MOLOKA'I SUBSISTENCE FOCUS GROUP MEETING

KAUNAKAKAI - MAKAKUPA'IA DISTRICT

JULY 6, 1993

HUNTING

Problems and Concerns:

1. Private lands not open to residents
   - Pu'u o Hoku
   - Bishop Estate
   - Moloka'i Ranch

2. Pigs will always be a problem in hard to get to areas that are only accessible by chopper or boat.

3. The only open areas include public lands and state game management areas (for pigs and goats).

Policies and Recommendations:

1. Bag limit: Change the existing policy from 1 deer/yr/family to:

   a. 4 deer/yr/family
   b. 1 deer every 2 months (6 deer/yr)

   * Note: Birth rates vary - a deer drops 1 a year; goats have 2-6 kids per year; and pigs have 6-8 young every 3 months.

2. Moloka'i should have a similar hunting program to Lanai's.

3. Require a hunting license and set aside money generated for protection and conservation programs.

4. Before we open up a place to hunt, limit the number of people to hunt and make sure there is enough deer.

5. Reinstitute old Moloka'i Ranch System for deer hunting in effect through 1960's:

   a. 3 zones (Kaheloa to Kolo, Waiakane to Oliwai, Manawainui to Makakupa'ia) people draw for an area for the season.

   b. 1 deer/person: a buck only or sometimes doe allowed.

6. Do more efficient count of deer on state land.

7. Need a ratio of deer availability (especially take into account the number of bucks available) to number of hunters.

8. Create a system to generate good quantitative data on deer, goat, pig availability, habitat changes, etc. The numbers don't lie and are a powerful tool for policy making.

FISHING

Problems and Concerns:

1. Too much commercial harvest.

2. Problem of eye size of net and length of net as opposed to time in water, need to set a standard.

3. More and more O'ahu boats and Maui boats (especially backside/Kalaupapa).

4. Not enough enforcement on commercial fishing.

5. Off-island limits hard to enforce.

6. Bag limits would increase commercial.

7. Tropical fish collection practices are harmful to the reef ecology (e.g., overturning of coral heads); it should be regulated in some way.

8. Kaunakakai to Makakupa'ia is overfished.

Policies and Recommendations:

1. Improve law enforcement on bag limit, minimum size, Kapu seasons.

2. Increase number of game wardens/marine police to regulate reef and deep sea fishing.

3. Harbor master be authorized to enforce bag limits.

4. Require fishing license where the money goes back to protection and conservation.
   * Note: discussion noted that this would pose an unlawful limitation on Native Hawaiian access and gathering rights.

5. Require recreational license.
   *Note: discussion noted that this would pose an unlawful limitation on Native Hawaiian access and gathering rights.

6. Develop hatcheries.

7. Encourage fish farming to give back what you take. Plan fishponds under community management. Need to make it easier to get permits, raise funds, etc. and cut the red tape especially for restoration of fishponds.

8. Hawaiian Home Lands are now doing own fish hatcheries.

9. Set aside sanctuary areas:

   a. Kamalo Wharf

   b. Pālaʻau

   * Note: and all wharfs which are natural spawning areas.

10. Consider other states' law of no gill netting and no night diving.

11. Televise regulations.

12. Create a system to obtain good quantitative data on fish species, their condition, ocean conditions, anthropogenic impact on the marine environment, etc. Hard data is an important tool to policy making.

13. Encourage the practice of throw netting because it is not wasteful since the fisherperson can be very selective in what he/she catches.

14. Since the green sea turtle population is increasing, we should now re-open a season to catch turtles provided that we utilize an effective management strategy to prevent a recurrence of decimating the turtle population.

GATHERING OCEAN RESOURCES

Problems and Concerns:

1. Improper method of harvesting limu, due to ignorance.

2. Overharvest of ocean resources.

Policies and Recommendations:

1. Stress education on how to catch species:

   a. Gathering limu properly so still there when go back

   b. Public Meetings

   c. Start with kids.

   d. Media programs to teach people about proper methods of gathering.

   e. Media to televise regulations.

   f. Outreach by community leaders, to all ethnic communicants.

   g. Train violators to gather 'opihi and distribute them to other areas.

   h. For fishing and gathering other ocean resources, make a community bulletin board to show what is in season.

2. No commercial sale of 'opihi.

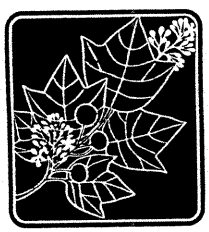
3. No commercial sale of alaeke, kuhonu, and a'ama crabs.

4. Bag limit with exceptions for parties.

5. Create a system to obtain good quantitative data on availability of limu, 'opihi, anthropogenic impacts on these resources, environmental conditions, etc. to aid in policy making.

HAWAIIAN HOME LANDS - Hunting and Offshore Fishing

Beneficiaries to have first priority to resources, Moloka'i locals to have second priority, and third priority to off-island guests.



MOLOKA'I SUBSISTENCE FOCUS GROUP MEETING

MAKAKUPAIA - HALAWA DISTRICT

JULY 13 and 14, 1993

FISHING

Problems and Concerns

1. The construction of houses in Wailau will affect the growth and condition of Hihiwai and prawns abundant in the valley.

2. Recreational activities such as wind surfing pose a problem to subsistence.

3. The new law on laying net for 4 hours maximum is unrealistic because fishermen lay by the tide, not by the hour.

4. With our present economic situation, there is more and more reliance on commercial fishing.

5. The big fish spawn more than small fish, we may need some measures to protect the heavy spawners.

6. Severest enforcement problem is on the backside (Hālawa to Mo'omomi), especially with regards to the moi fishing grounds.

Policies and Recommendations

1. Proposal for Kapu: alternate open and close areas between harbors (e.g. Open Kamalo to Keawanui and close Kolo to Kaunakakai) for two years at a time.

   a. Gill netting and commercial operations shall be prohibited in closed areas.

   b. Native Hawaiian Rights to gather for subsistence will not be hindered in closed areas. Kanaka maoli residents will be allowed to spearfish, throw net, and pole fish.

   c. Commercial and subsistence activities will be allowed in open areas for everyone.

   d. Harbors will be open all the time; but, the areas between harbors will be under the kapu program.

e. Discussion on the offshore boundaries yielded suggestions of (i) a limit to the end of the reef, or (ii) one mile offshore limit, or (iii) three mile offshore limit. One person suggested that we should not limit ourselves at all.

2. No more houses should be built near the fishponds and houses already existing near fishponds should be removed. Sewage effluent from residential cesspools are leaching into the ocean.

3. Create a kapu for mullet according to season. The kapu on mullet should also be retained in open and closed areas.

4. Recreational activities (e.g., windsurfing, jet ski, etc.) should be restricted from subsistence areas; only canoe and surfboards should be allowed.

5. Enforcement of existing laws should be carried out by the users of ocean resources. It is not a good idea to bring enforcement officers from off-island. We need to stress community rather than state enforcement.

6. People of a particular ahupua'a should manage the resources in their area, outsiders should respect the residents there and ask permission to fish and gather.

7. Change new net law to allow for laying net for a 12 hour period instead of 4 hours (e.g., 6PM to 6AM) to go by tide instead of by hour..

8. Protect mauka. Limit houses developed mauka so as to prevent problems of runoff.

9. Close spawning areas all the time:

   a. Mullet, December-February

   b. Moi, July-August

   c. Expand kapu to other species (reef fish, manini, kala, 'ō'io, etc.).

10. Educate commercial fishermen so as to see the impact of their activities on the natural environment.

11. $200,000 has been allocated to fishpond restoration and production, we need to also look at getting funding for the purchase of deep sea boats and equipment with trained Hawaiians working them because longliners from

out of state (300 boats) are taking all the resources with no economic benefit to us. Should get 2-3 boats engaging eight people each in commercial deep sea fishing.

12. Use the Hawaii Territorial Survey Maps, 1893 showing fishing areas in mapping of sensitive areas.

    a. Establish Honomuni, identified as a traditional offshore fishing should be made a kapu or sanctuary area.

13. No fishing from Hālawa Point to Wailua. Or designate this area for subsistence fishing only.

14. Increase net size to four inch eye to catch only the big ones. Note: But the big fish are the heavy spawners; eye size of net is not necessarily the solution.

15. Waters off of Hawaiian Home Lands should be reserved for Homesteaders and those accompanied by Hawaiian homesteaders.

16. Net fish only outside of reef (however, it was pointed out that nobody really net fishes outside of the reef!).

17. Designate areas closed to gill net fishing.

18. Reserve oama for home consumption only.

19. Weigh where to control commercial fishermen versus prohibiting them altogether from certain areas or certain activities.

20. Need to have community challenge commercial overuse instead of just individuals.

21. Need the community to work together to reopen fishponds.

22. Restock the ocean with native fish only. Promote fish hatcheries.

23. Allow for commercial sale of ta'ape since it is an introduced species and out competes other fish for food and space.

24. Make special protection laws for ko'a (fish shrines) and recognize the caretakers.

25. Allow for harvest of turtles again for consumption since there is a large population of them.

26. Establish safe places close to island for breeding.

27. Discuss proposals for opihi restrictions and establish areas closed to commercial use with commercial fishermen.

28. Promote ta'ape kills/eradication program, like goat eradication.

29. Make laws establishing restrictions which equally apply to commercial as well as subsistence users.

OCEAN GATHERING

Problems and Concerns

1. Commercial vs. Subsistence.

2. Over harvest.

3. Leaching of sewage and water diversions have negatively impacted limu growth.

4. Improper method of gathering ocean resources (e.g., taking the rock with the limu attached).

Policies and Recommendations

1. If we are to limit commercial activities, we should make a list of what can be produced (e.g., limu, 'opihi, etc.) to supply the demand and get funding for these aquaculture projects. Encourage production rather than limiting harvesting.

2. Open and close alternate sites to protect opihi and other ocean resources. Also put a bag limit on opihi gathering in commercial areas.

3. In making water laws we need to take into account their impact on limu.

4. Stop negative impact on limu from water diversions.

5. Ban commercial harvest of ala'eke and kuhonu crab.

6. Study needs to be conducted to determine why limu is not abundant anymore. Is it water related? Sewage related?

7. Educate all Hawai'i residents on how to harvest; put into Immersion Program.

8. Define usage of 'opihi; start from why we gather and eat 'opihi.

9. The community should get together one time and share 'opihi instead of having individuals harvesting continuously and depleting the resource.

10. No commercial sale of limu kohu, wild ogo (manuea).

11. No commercial.

12. No off-island users unless accompanied or invited by residents.

13. Bag Limit in conjunction with limited open season. such as one month:

    a. Limited time.

    b. Limit days.

14. Only Moloka'i residents to harvest 'opihi in conjunction with bag limits. A program needs to be set up to educate/inform people about the bag limits.

15. Set up sanctuaries for the education of the children.

16. In deference to our kupuna, we should not limit their harvest anywhere, including in sanctuaries.

HUNTING

Problems and Concerns

1. Hikers do as much damage to native plants as do animals.

Policies and Recommendations

1. Allow people to have meat from eradication programs.

2. Overnight hunting lodges to be used only for subsistence hunters as temporary shelters.

3. Open trails on private lands to get to state lands.

4. Pay $25 to Moloka'i Ranch until catch a deer. Don't keep paying if haven't caught a deer.

5. Off-island hunters must be accompanied by Moloka'i residents.

FOREST GATHERING

1. Put ceiling on development of mauka resources (e.g., ruining of pipi/cow).

2. Limit destruction of mauka resources.

3. Establish community stewardship of selected forest areas (e.g., Ka'ana).

WATER

1. No construction by any water source so as to avoid water contamination.

2. No houses to be built in Wailau, Pelekunu, and Waikolu valleys. Only shelters for long term camping should be allowed. *Note: there was some disagreement because some families have kuleana lands and they should have a right to build.

3. Only camping to be allowed in Wailau, Pelekunu, and Waikolu valleys.

4. Preserve Wailau, Pelekunu, and Waikolu and put limits on Conservation District Use Area Permit.

CULTIVATION

1. Determine where on mauka livestock can be raised because it affects the ocean.

2. The very high cost of water meters borders on extortion and limits cultivation.

RIGHTS

1. Make tenant rights an encumbrance on real estate deeds/titles.

2. Determine where ranching affects makai.

3. Urban and Cesspool/Sewer affect subsistence (e.g., prohibits the raising of livestock, making a taro patch, etc.).

4. Water costs - water meter. Water rights?

5. Exercise native rights to fish and gather for subsistence in closed harbor to harbor areas.

6. No more immigration to Moloka'i because it affects subsistence.

7. We need to practice self-management regardless of the laws that are out there.

8. Protect historical and cultural sites by paying people to restore or maintain them.

9. There should be no compromise on subsistence, it is an extension of myself.

MOLOKA'I SUBSISTENCE FOCUS GROUP MEETING

MAUNALOA DISTRICT

JULY 20, 1993

FISHING/OCEAN GATHERING

Problems and Concerns

1. Moloka'i Ranch gives strict policies and regulations, denies access or makes getting a pass difficult. This forces people to trespass in order to get to places such as Lā'au Point, Halena, and Kaupo to utilize the resources.

   * Note:

   a. Comments were made in support of Moloka'i Ranch because the only areas that have any resources left are those owned by Moloka'i Ranch; whereas, those areas opened to the public have depleted ocean resources.

   b. A response to this was an affirmation that Moloka'i Ranch needs to continue to manage their resources, but not to the point where Moloka'i people cannot provide for their families through subsistence use.

2. Moloka'i Ranch denies access to Moloka'i residents, yet off-island people are welcomed onto the land and harvest the resources which they do not need for subsistence.

3. Up until the 70s, during the Pineapple days, there were open trails to access; now these trails are locked.

4. Off-island and commercial people take too much fish resources. O'ahu guys depleted their own resources - opihi. Now they come to Moloka'i.

5. 'Opihi on the West end is gone.

6. The South shore on the West end is considered a breeding, hatchery and nursery ground, especially for moi. This area needs to be managed better.

7. Commercial use is killing our subsistence lifestyle. We need to protect the resources.

8. Concerned about what Moloka'i Ranch wants to do with land. What happens if/when development occurs?

9. Alpha plans to build bungalows which may interfere with subsistence and cultural practices.

10. Moloka'i Ranch is building structures without permits at Hālena.

11. Certain archaeological sites such as the fishing shrines or ko'a identify at every finger out into the ocean on the West shoreline where there is a fishing ground. These are both cultural and subsistence areas. West End Hawaiians still make offerings on them. We need to protect them.

12. There is a lot of rubbish people leave on the beach. Debris on the beach is destroying the fishing habitat.

13. The community feels not wanted on their own land.

14. Private landowners having beach front property are keeping out Moloka'i people who wish to fish and gather.

Policies and Recommendations

1. The entire West end should be kapu and set aside only for the ahupua'a tenants for subsistence practices (from Mo'omomi to 'Īlio to Lā'au through to Kolo and to the sands of Iloli).

2. The ahupua'a tenants should work with Moloka'i Ranch to manage the resources. Lock and key also means that you can only take out what you can carry. No need to feel your ice chest.

3. Re-educate the people on the old Hawaiian values:

   a. *My grandfather used to say, "Okay, enough, let's go home." Now we are scared that if we don't take everything, someone else will.*

b. *The Akua put us on the land as caretakers; we do not own the land. As long as we do not overharvest, there will always be plenty. We all have to malama the 'aina.*

4. The hotels should be responsible for educating the tourists and off-island local people about leaving the resources alone.

5. Protect trails for Hawaiians and Moloka'i people for cultural use.

6. Protect fishing ko'a and shrines for use. West end Hawaiians still put first catch in shrines to acknowledge akua /'aumakua.

7. All moi holes should be protected and reserved for ahupua'a tenants and Moloka'i residents to harvest.

8. Moloka'i Ranch denies access to their land because of the liability issue, but this should not be used as an excuse because the state can give liability waivers.

9. Kawakiu should be restricted.

10. No harvest of all fish during their spawning periods.

11. No off-island opihi picking.

12. Commercial use of ocean resources should be allowed for only certain areas where the resources are abundant.

13. There should be a three mile offshore boundary within which commercial activities will be restricted.

14. There should be a two year shutdown of harvesting 'opihi on the West end.

    a. Only ahupua'a tenants will be allowed to gather 'opihi.

    b. After two years, certain areas will be opened up for subsistence use only; no commercial gathering of opihi will be allowed.

15. The community needs to monitor activities of its own members.

16. The Ranch should make an access plan in conjunction with the community which would be based on protecting trails and areas of cultural use.

17. Moloka'i Ranch was required to develop an access plan as a condition from the Department of Land & Natural Resources for a CDUA. At one point, a 12 foot setback from the shoreline as an easement (for the road) was considered.

18. Any development needs to be away from shoreline. There are archaeological sites, especially fishing ko'a which are still used along the shoreline.

HUNTING

Problems and Concerns

1. Against paying fees for hunting. It was also noted that the new policy of submitting the hunting fee to the Nature Center is worthwhile in educating the children on conservation practices.

2. There are worries about what Moloka'i Ranch plans to do with their land, if development occurs, such as the Kaluakoi resort development, no hunting will be permitted.

3. The quota of catching no more than one deer per year on Moloka'i Ranch land is too little for our families to harvest. It should be expanded according to family size.

4. There are a lot of deer carcasses lying around because night poachers cannot find them after they shoot them. The killing of mother deer and leaving the fawns to die has also become a problem. This is wasteful and must be stopped.

5. Nighttime poaching has become a problem because there are too many restrictions put on hunters forcing them to hunt illegally.

6. Commercial sale of deer is a problem. Moloka'i Ranch sells deer yet restricts subsistence hunters to the same resource.

7. Development means no hunting / only have access to ocean.

Policies and Recommendations

1. The quota of one deer per year Moloka'i Ranch should be changed to 12 deer per year.
   * Note, there were other suggestions addressing the quota issue:

   a. Bag size should be dependent on family size.
   b. There has to be a limit to everything, we should only take what we need.
   c. We should not designate a number; subsistence is subsistence.
   d. In figuring out a quota, we need to take into account the fact that the deer do not hanau every year, there is a season.

2. Moloka'i Ranch should open access to certain areas and have seasons. Perhaps should designate alternating kapu areas for hunting.

3. Only ahupua'a tenants and those accompanied by them should be allowed to hunt in their district (e.g., like Kalapana rights).
   * Note: there was concern that by giving privileges only to ahupua'a tenants, there will be too much fighting between Hawaiians and residents from other districts. We need to be sensitive to their needs.

4. Native Hawaiians should be allowed to come on Ranch land to hunt, gather, etc. by signing a waiver to Moloka'i Ranch.

   a. If any Hawaiians that go on Moloka'i Ranch land and break the laws, then they should go before the Ohana Council where the Kupuna will discipline violators.

   b. Instead of going before the 'Ohana Council, they should go before the Ahupua'a O Kaluakoi.

5. Responsible hunters should be given the power to arrest those that abuse the deer by shooting them and leaving them to die.

6. Access plan presented to Moloka'i Ranch was rejected because of no liability insurance. This can be resolved by having the state give liability waivers.

7. No commercial sale of venison, it should be used only for subsistence purposes.

8. Moloka'i Ranch should sign an agreement to not sell venison.

9. Moloka'i Ranch should sign the agreement worked out with Ahupua'a O Kaluakoi.

LAND GATHERING

Problems and Concerns

1. The Hinahina on the West End beaches are dying out because of improper handling by tourists (e.g., walking on the Hinahina or pulling it by the roots).

Policies and Recommendations

1. We need to educate the tourists that Hinahina is a native plant that should not be touched.

2. Boardwalks need to be built around the Hinahina to protect it from being trampled on.
   * Note: Efforts by concerned West end people have already been made to build a boardwalk.

MOLOKA'I SUBSISTENCE FOCUS GROUP MEETING

HO'OLEHUA DISTRICT

JULY 27, 1993

HUNTING

Problems and Concerns

1. The Nature Conservancy doesn't let Moloka'i people hunt at Mo'omomi; only their employees can hunt there.

2. The cattle from Moloka'i Ranch is harming the Mo'omomi habitat; there isn't enough grass for the deer to eat.

3. Some people cannot afford to pay $25 to Moloka'i Ranch to hunt deer. The deer was brought here for the people, but now these private owners act like they own the deer.

4. Does the state own the deer? Who owns the deer? Where did it came from? Who for? If we look back in history, it was given to the Hawaiian people. By right, the Hawaiians own the deer.

5. There is no access through private lands to get to the State Forest (e.g., the gate at Kalama'ula to the Forest Reserve is locked). Even when it is hunting season, the gate is closed.

6. In looking at whether pigs, deer, and goat are the primary cause of a decrease in vegetation, we should also examine the life cycle of forest plants, the amount of rainfall, etc. (Another cause may be the 'Ōh'ia tree. The 'Ōh'ia tree deposits acidic material in the soil to eliminate other plants from growing around it; over time, when the soil eventually becomes neutral again, the plants are able to come back).

Policies and Recommendations

1. The Nature Conservancy needs to open Mo'omomi to hunting for the general public, not just their employees.

2. The cattle at Mo'omomi should be removed or kept out of sensitive areas where overgrazing has taken place.

3. Allow for access through private lands to get to State Forest by opening the gates (e.g., Leave the Kalama'ula gate to the Forest Reserve open from June to October).

4. The hunting lottery system should be changed to the 'Ohana system.

5. Sports/recreational hunting should not be encouraged in hunter education classes.

6. Whether they are hunting on private or public land, hunters should not be required to get a hunting license whether they are hunting on private or public land.

7. The quota of catching only one deer per year should instead be determined according to deer herd size + family size + family need + and special circumstances.

8. Provide education on the meaning of subsistence so that hunting is for subsistence only.

HAWAIIAN HOMELANDS

1. On Hawaiian Homestead lands, the beneficiaries should have first priority. The Department of Hawaiian Home Lands should decide who can hunt on its own land.
   * Note: There was disagreement with the idea of providing access for Native Hawaiians first, then Hawaiians from off-island, then Moloka'i residents. Those who were born on Moloka'i and raised in the Hawaiian way but don't have the Hawaiian blood are at an unfair disadvantage.

2. No commercial use of deer on Hawaiian Home Lands.

3. No recreational use of deer on Hawaiian Home Lands.

4. No snaring and aerial eradication of the deer and pigs on Hawaiian Home Lands.

5. Deer and pigs shall be only used for subsistence.

6. The fence put up by the Department of Land and Natural Resources on Hawaiian Homelands hinders subsistence use. There should not be a fence on DHHL lands.

7. Ban military activities on Hawaiian Homelands. Military activities are chasing the game away.

8. Create a hunting program by the Department of Hawaiian Home Lands for their own lands.

9. The Department of Hawaiian Home Lands should create a program to sustain and enhance wild resources on Hawaiian Homelands instead of the Department of Land and Natural Resources.

10. The beneficiaries rather than DLNR should become the game managers and lead the hunting programs on their land.
* Note: This does not necessarily mean only Hawaiian homesteaders can hunt there.

11. File a lawsuit against the Hawaiian Homestead commissioners for shirking their responsibilities to manage their own lands and giving the responsibility to the Department of Land and Natural Resources (DLNR). DLNR cannot hire homesteaders because they need to involve the general public (e.g., 75% of funding comes from federal government). It would be better if the homesteaders managed the resources themselves. DLNR is not responsible for anyone, they put up a fence but did not tell anybody. The Commission has to take more responsibility; they need to listen to the people they serve. It would be better if the homesteaders managed the resources themselves.

    * Note, the discussion was in reference to Kalama'ula Homestead. It was suggested that the Kalama'ula homesteaders should make the recommendation instead of Ho'olehua since they are the ones that will be impacted by this decision.

12. No fee should be required for homesteaders to hunt on Homestead land.

13. Allow Ho'olehua residents access to Ranch lands, Hawaiian Home Lands, and Nature Conservancy lands at Mo'omomi.

FISHING/OCEAN GATHERING

Hui Malama O Mo'omomi Plan

1. Close Nihoa flats to ʻĪlio to outside fishing by boat and on shoreline.

2. Designate Mo'omomi Bay and Kawa'aloa Bay as sanctuary areas where there is no subsistence or commercial fishing:

   a. Ensure good supply of fish for generations to come.

   b. Need to replenish dwindling supply of fish resources; outsiders as well as locals are responsible.

   c. Grounds should be used for educational purposes; to study what kinds of fish are there, their distribution, feeding habits, when and how they breed.

   d. The bays should be reserved for educating the children.

   e. No fishing, even subsistence fishing, should be allowed. These areas will serve as a protected breeding ground for restocking purposes.

   f. Close to outside island fishing whether by boats or by the shoreline.

   g. Off island commercial fishermen will be restricted to three miles from the shore; Moloka'i commercial fishermen will be able to fish in certain areas more close to shore.

   h. Allow commercial catch of Ta'ape and To'au.

   i. Outside Mo'omomi and Kawailoa commercial fishing will be restricted to certain species.

   j. Outside Mo'omomi and Kawailoa commercial harvest of all deep-sea fish will be allowed (e.g., Opakapaka, Ehu, Aku, Kawakawa, Kona crab, Akule).

   k. Opihi will be kapu to non-homesteaders, but there will be a bag limit for homestead users.

   l. Leave the papa close to shore for the kupuna.

m. Catch only what need.

n. Re-education is important part of making this work.

o. Have Homesteaders Council control and manage the resources. Conduct research and control information that become public.

3. There is too much access to Mo'omomi. The resource is getting depleted. Need to limit access and take responsibility. Hui Malama O Mo'omomi along with the Department of Hawaiian Home Lands need to agree to limit access to Mo'omomi by fencing and locking the area. Only homesteaders can get the key and must pay or fix for what breaks when they have access to the area. At Mo'omomi, from beach to reef from Mo'omomi to Kawa'aloa should be reserved for keiki. Put a fence from Anahake to Mo'omomi. Still working on the rules and regulations. Mo'omomi will be opened up for an extended period during the summer for camping for Homesteaders. Cabins will be built and the pavilion restored.

   * Note: There was some concern about relations with people from other districts. The response was...

   i. The area will be opened to anybody who wishes to go as long as he/she is accompanied by a homesteader.

   ii. This is private land, not state land. Like Moloka'i Ranch guys, we homesteaders need to manage the land.

   iii. Mo'omomi is such a small spot on Moloka'i, we are not talking about a big area. As a matter of fact, people from the other districts hardly come this side anyway because its too rough and they aren't ma'a to the place.

4. The Department of Land and Natural Resources has a law that from the high water mark down belongs to the public; they either bought or do not recognize any of the konohiki fishing rights.

   i. We should manage the area ourselves, and incorporate Native Hawaiian fishing rights.

5. Sand resources and pohaku should be protected. Need a review sand and mining laws.

6. Promote research on where the breeding grounds are.

* Note:

a. Some people were hesitant about having University of Hawaii or anyone else do studies because of their concern about where the information will go. Because people depend on the fishing grounds for subsistence, they don't want outsiders to know where their "ice box" is.

b. A response to this is that we can make the University of Hawaii work for us by using their resources; studies can also be done on the reason behind the tumorous growths on turtles, ciguaterra toxin in fish, arsenic in crabs (possibly caused by putting this chemical on bags associated with the pineapple to kill rats), the condition of coral reefs, and the impact of mangroves.

7. Take sections along the shoreline and alternate closures by year or by month.

8. Hawaiians have the right to eat fish, 'opihi, limu, crab, even turtle.

9. We need to train young people how to malama Mo'omomi; to show them how to take what we need and put back the extra. Train Hawaiian resource managers to control our own place.

10. Educate ourselves on the meaning of the ko'a, to know our relationship to the ocean.

11. Should restock in the wild off of Mo'omomi.

LAND GATHERING

1. No commercial sale of Hinahina and 'Ena'ena.

2. Protect burials and artifacts.

OTHER COMMENTS

1. In this survey, we need to reflect the family, not the individual.

2. Each person has a role in the family (the hunter, the fisherman, the limu gatherer, etc.).

3. Subsistence is a family activity and responsibility.

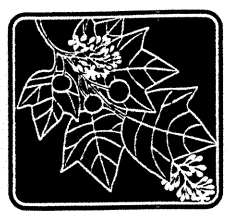
4. Roles change as people get older. Younger one do more demanding activities. Older ones do less taxing activities.

5. Actually Moloka'i style is not only the family but with neighbors too because there is a lot of sharing going around.

'ILIO POINT

1. Fence 'Īlio so that vehicles traffic is barred, but keep the foot trail access open.

2. Don't block access from Kawakiu.



MOLOKA'I SUBSISTENCE FOCUS GROUP MEETING

HAWAIIAN HOMESTEADERS

JULY 28, 1993

GENERAL COMMENTS

1. There is a stigma that Hawaiians only have the right of access on the old trails; whether a trail is still unpaved or paved and widened into a road Hawaiians should still have the right of access.

2. Whether a certain area is developed or undeveloped, the ahupua'a tenant rights remain the same; we can still use the land to practice subsistence.

   * Note: The case of PASH (People's Access to the Shoreline Hawaii) versus the County of Hawaii in February 1993 ruled that the Planning Commission or any other agency which issues a permit to developers should make special conditions that will protect Native rights of access to gather. The case was appealed to the Supreme Court. The Supreme Court will decide what is the criteria in assessing the impact of certain development on Native Hawaiian gathering rights and the Planning Commission's role in protecting these rights. If the ruling is upheld, then it may be applied to this concept of ahupua'a tenant rights.

3. When Hawaiians lose land and resources to development then the ahupua'a rights should shift.

4. Concerned that the high amount of blue dots on the map indicate overaccess to fishing spots. However, the excess of dots doesn't necessarily represent high population pressure on a particular site, it only indicates where the fishing grounds are.

5. The compromise between over access and lack of access is to limit access.

   a. Private landowners should continue to manage the resources on their land but should not completely deny residents access.

b. Private landowners should only require a deposit for the key, but not charge a fee to pay for the resource.

c. Trail access rather than road access provides a natural limit to the resources.

FISHING/OCEAN GATHERING

Problems and Concerns

1. The pollution of Coconut Grove and Pāla'au (also at one spot on the East end) evident in the arsenic contamination of crabs. It is a shame because these areas are prime crab grounds.

   a. Researchers say the cause is a natural chemical reaction with red soil and the ocean; the red soil also chelates arsenic and this substance may have bioaccumulated into the tissues of the crabs.

   b. The re-routing of the waters through the development of bridges may have caused the red soil from higher regions to drain into the ocean.

   c. The mouth of Manawainui Stream is at the beach of Pāla'au. Increased runoff from the old pineapple fields, bringing red soil and possibly residual pesticides may also be the cause of arsenic in the crabs.

   d. The chemicals from the landfill materials may be leaching into the water table and affecting the marine environment.

2. Limu growth is becoming dense and different kinds of limu are present:

   a. A possible reason for this lush algal growth may be due to the overharvest of crabs and fish which used to consume the seaweed.

   b. The increase of nutrients primarily through sewage effluent or even fertilizers may select for opportunistic types of algae, and which in turn, choke off the native seaweed that may grow slower and may need less nutrients.

   c. Foreign species of seaweed may have taken over native species:

i. They could have been introduced by ships or boats from other countries that carry spores in their bilge water and unload this water nearshore instead of in deep water.

ii. Mats of algae growing on the undersides of these boats and ships may also have been able to reproduce and settle in Hawaiian waters.

3. Sewage system impact ocean. Landfill has impact on makai.

4. The practice of tying an aku head or other type of fish to a net to invite all the crabs is very effective and is helping to decimate the population.

5. Off island boats from Dixie to the Northwest side take massive quantities of 'opihi.

6. With 50% of High School graduates having luaus which commonly provide raw fish, raw crab, tako, 'opihi, limu, etc. the negative impact on these marine resources are tremendous.

7. When Kawakiu was opened up to the public in the 1970s, the place was cleaned out in three months. This shows how dependent we are on the ocean to feed us and how we must manage ourselves.

Policies and Recommendations

1. The fact that there aren't much ocean resources out there needs to be stressed to both subsistence and commercial people because we all are part of the problem. Restrictions should apply equally to commercial and subsistence users.

2. We need to understand the purpose of kapu, a period in which the time of spawning was observed and respected.

3. Incorporate a kapu system characterized by opening and closing alternate areas.

   a. To deter a problem of completely raping the resources from open areas, a kapu on harvesting all types of fish during their spawning periods, regardless of whether they are in open or closed areas, must be implemented.

4. Both subsistence and commercial users shall adhere to a two year kapu on all edible crab.

   a. We need to learn the life cycle of the different types of crab.

   b. After the kapu is over, we will have to manage the crab population so that we do not deplete the stock again. No harvest will be allowed during the crabs' breeding season.

   c. April- May is heavy for crabbing, day and night for graduation. Should let it rebuild during summer time.

   d. Method of laying net to get crab should be banned.

5. Both subsistence and commercial users shall adhere to a two year kapu on opihi.

6. Kalaupapa's establishment of a quarter mile buffer zone (from Kalaupapa to Nihoa) in which no one but the patients or the kokua workers can access from the ocean and from the shore may be applied to other areas on Moloka'i.

7. We should consider adopting a similar plan to that of Kalapana on Hawaiian Homelands. Only beneficiaries, ahupua'a tenants and their guests will have access to the ocean resources.

8. Got to manage the resources of Moloka'i. It is a fragile island. The management has to come from the people not government. "Protection" has to be balanced with lifestyle users. The 'ohana and neighbors all share in the use. Subsistence is to support 'ohana/neighborhood gatherings. Need to perhaps adjust amount for parties, number of parties with resources.

9. Set up stewardship councils to (1) manage resources; (2) conduct education on how to pick properly; (3) how to put back and replenish resources. Have ahupua'a tenants represented.

10. Conduct research to find some of the arsenic and alien limu growth, [resulting in the] decline of native limu and recommend ways to clean it up.

HUNTING

Problems and Concerns

1. The last count of deer in the region of Kalama'ula, Makakupa'ia, and Kawela was 9 deer. The reason for this is:

    a. A loss of habitat (no more kiawe trees to provide shade) due to recent fires.

    b. Helicopters and military exercises scare the deer away.

2. The deer have migrated to and become abundant in Ho'olehua. There are more places to hide, especially since the pineapple is gone. The deer's water source is the irrigation water for Homestead crops, they eat the crops and damage them.

Policies and Recommendations

1. Despite the fact that there are lots of deer in Ho'olehua, the issue of safety in this residential area is critical. How do we protect farmers' crops, benefit subsistence hunters at the same time, and do it in a safe way?

    a. Bow hunting may be the answer because the range or distance in which an arrow travels is shorter than that of a fired bullet; the hunter also has less control of where the bullet travels.

    b. The problem is that it is difficult to find enough proficient bow hunters on Moloka'i.

        i. It was suggested that we designate just one bow hunter to hunt the deer whenever they pose a problem with crop damage.

        ii. Bull Dela Cruz was suggested as a good bow hunter that may be of help to the Ho'olehua homesteaders.

2. Implement the 1983 Kalama'ula plan which gives beneficiaries special hunting privileges.

    a. The Department of Hawaiian Home Lands had already requested that the Department of Land and Natural Resources give priority to homesteaders during this hunting season. They were late for

this year but DLNR was receptive to this plan and it may be implemented next year.

b. Concern was brought up that we are creating division among Moloka'i residents by giving priority to beneficiaries above the general public. The response to this concern was...

   i. Hawaiian homelands have been continuously used for the benefit of the general public (e.g., the rubbish dump on Kaua'i is on Homestead lands, the state swaps Homestead land for other land, etc.); it is time that the land be used to help the beneficiaries.

c. Suggested preference to (1) DHHL beneficiaries (homesteaders, waiting list, 1/2 Hawaiians); (2) residents and (3) off -island.

3. In Kalama'ula, Makakupa'ia, and Kawela, the homesteaders are presently working on a project with fire prevention to protect the livestock there.

4. The Moloka'i CDC wants to create a cooperative for opening community pastures in Ho'olehua, Kalama'ula, through Makakupa'ia and Mahana to be maintained by the homesteaders. This will lay foundation for homesteaders to manage the game management area with or without DLNR.

   i. This project will not only bring back the cattle, but also the deer.

   ii. Kiawe trees will also be replanted to provide shade for the deer, to prevent erosion, and the kiawe beans to feed the cow.

   * Note: It was suggested that we plant native trees instead of kiawe trees which are not native.

   iii. Only homesteaders can get keys.

FOREST/LAND GATHERING

1. Over harvest of ti leaves in Hālawa.

2. Every household should be given ti leaves to grow.

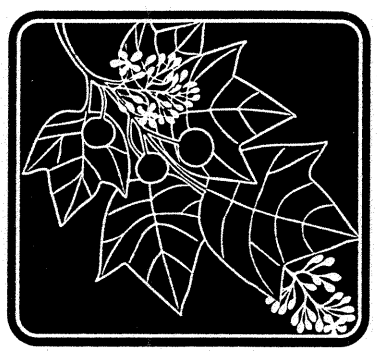
3. Provide access to Pu'u O Hoku Ranch for gatherers.

4. Over gathering of Hinahina at Kaluakoi by flower shop owners.

5. Ignorant tourists trample the Hinahina.

6. Measures need to be taken to preserve and replenish the Hinahina. Provide stewardship. Not only take, pick properly, give back, put in board walk.

7. Don't just take plants, take care, give back and pick correctly.



MOLOKA'I SUBSISTENCE FOCUS GROUP MEETING

LA'AU LAPA'AU GATHERERS

AUGUST 11, 1993

Problems & Concerns:

1. Man is making the pilikia by using the land himself, introducing new species, filling up the springs, and putting lepo (sewage) inside our taro patches and fishponds.

2. Moloka'i is a unique place, it is the only place where you see taro growing in swamplands. Why does the government deny Hawaiians from making their homes at these swamplands and grow taro, but let foreigners fill up these swamplands? These areas need to be protected.

3. Animals in the mountain stomp on the ground, eat and uproot our native plants, and cause erosion.

4. Farmers in Ho'olehua use too much pesticides and fertilizers on their crops. These chemicals leach into the water table and the ocean, as well as harm native plants.

5. Eucalyptus is killing our endemic plants, even guava.

6. Access to lā'au plants are limited.

7. Many native plants are no longer seen where they used to grow.

8. The spraying of chemicals by the county and state along the roads has killed a lot of medicinal plants. Used to use roundup.

Policies & Recommendations:

1. No more spreading of chemicals along the roadside by County and State highway workers because they kill medicinal plants along the roadside.

2. The State or County should set aside a piece of land to raise Hawaiian medicinal plants such as popolo, ihi, kaliko, etc. (The soil should be

fertile, exposed to lots of water, and not high in salt; although factors such as habitat type and seasonality of different plants needs to be taken into account).

3. The Department of Hawaiian Home Lands and the Kamehameha Schools Bishop Estate should set aside areas for cultivation of lā'au plants.

4. Set aside five acres in each district of the island so that a variety of plants accustomed to different climates can be cultivated and shared with all Moloka'i lā'au practitioners. For example, at Keawanui by Bishop Estate for Mana'e, and at the school by DHHL for Ho'olehua.

5. Malama such plants as laukahi, 'olena, awa, ano ano, ka makou, etc.

6. Protect the seeds by donating them to seed banks or nurseries.

7. Provide a key to lā'au gatherers who wish to access closed areas:

   a. Makakupai'a which is owned by the Department of Hawaiian Home Lands and managed by the Department of Land and Natural Resources. There's a lot of Ko'oko'olau there.

   b. Punakou to Kalama'ula is DHHL/DLNR, with a small portion belonging to Moloka'i Ranch.

8. Kahalepuna "Pops" Smith, a Moloka'i Ranch worker, said that he would ask his employer permission for the Kupuna to access Ranch lands for lā'au gathering. He has seen at least five different medicinal plants on Ranch land. He offered to talk with the Ranch for the lā'au lapa'au gatherers to get access and he offered to accompany them.

9. Get hunters to gather medicinal plants from mauka areas for the kupuna.

10. Encourage people to plant their own lā'au. Whenever one takes from the forest should also replace.

11. The Government already has programs for planting trees and making nurseries; we should advise them on what kind of plants to grow since it all comes out of our own tax money. Some trees and plants are not good for the lā'au, they take over.

12. Should plant fruit trees like the old timers used to do in the mountain and valleys - the orange, 'ulu, mountain apple, banana, and sugar cane to how it was before. Kauila is also a useful tree.

13. Need access to areas where the lā'au is.

14. Need to control animals from going in certain areas where there is good lā'au.

Final Recommendation: Create a Lā'au Task Force

As a summary to the meeting the group agreed to forward the following as there main recommendations to the Moloka'i Subsistence Task Force:

a. Organize groups who recognize lā'au plants to survey certain areas to find where these plants are.

b. Recommend that the legislature make a law to acknowledge right to move into certain areas to gather.

c. Seek access to lands that are privately owned by Moloka'i Ranch, Pu'u O Hōkū Ranch, Department of Hawaiian Home Lands, and Department of Land and Natural Resources.

d. Set aside five acres in each district of the island so that a variety of plants accustomed to different climates can be cultivated and shared with all Moloka'i lā'au practitioners. For example, at Keawanui by Bishop Estate for Mana'e, and at the school by DHHL for Ho'olehua.

e. Make a list of good and bad trees for reforestation programs.

f. Stop the County and State from chemical spraying.

g. Consult with farmers in Ho'olehua regarding pesticides that kill lā'au and impact small farmers.

h. Consult with hunters to help care for lā'au and gather from mauka areas for the kupuna.

<u>Lā'au Practice</u>:

1. Ka makou, a starchy plant, was used by Dr. Kano'i to cure Julian Yates of a kind of cancer.

2. Limu kohu is high in iron.

3. The pi'a starch (present in Wailau valley) is good for curing ulcers, and any kind of stomach disorders for babies and adults. It is prepared by boiling, then straining into a cheesecloth. More water is added if the taste is bitter; it may have to be washed several times. It is then fashioned into a ball and placed in a koko net to air dry. It can be made into a powder, used in the preparation of haupia, and as a thickener in stew.

4. Edible ferns; hemo the poison / bitter part. Be careful of worms from cattle.

MOLOKA'I SUBSISTENCE FOCUS GROUP MEETING

COMMERCIAL FISHERMEN

AUGUST 4, 1993

This meeting was structured somewhat differently from the district focus group meetings. Proposals which arose from the previous group sessions regarding fishing were scrutinized by Moloka'i's commercial fishermen.

1. Proposal for Kapu: alternate open and close areas between harbors (e.g. Open Kamalo to Keawanui and close Kolo to Kaunakakai) for two years at a time.

   a. Gill netting and commercial operations shall be prohibited in closed areas.

   b. Native Hawaiian Rights to gather for subsistence will not be hindered in closed areas. Kanaka maoli residents will be allowed to spearfish, throw net, and pole fish.

   c. Commercial and subsistence activities will be allowed in open areas for everyone.

   d. Harbors will be open <u>all</u> the time; but, the areas between harbors will be under the kapu program.

   e. Discussion on the offshore boundaries yielded suggestions of (i) a limit to the end of the reef, or (ii) one mile offshore limit, or (iii) three mile offshore limit. One person suggested that we should not limit ourselves at all.

<u>*Response*</u>:

a. This kapu system cannot work because it encourages people to rape the resources of areas designated as open.

b. This system merely grants a short reprieve on those areas that are closed, since once they are reopened, the supply of ocean resources drops back down to zero.

c. *It is better to manage the resources by closing the season on certain species according to their spawning period.*

2. Nihoa flats to Ilio (Kalaupapa)- designate Mo'omomi Bay and Kawa'aloa Bay as sanctuary areas:

   a. Ensure good supply of fish for generations to come.

   b. Need to replenish dwindling supply of fish resources; outsiders as well as locals are responsible.

   c. Grounds should be used for educational purposes; to study what kinds of fish are there, their distribution, feeding habits, when and how they breed.

   d. The bays should be reserved for educating the children.

   e. No fishing, even subsistence fishing, should be allowed. These areas will serve as a protected breeding ground for restocking purposes.

   f. Sanctuary will be closed to outside island fishing whether by boats or by the shoreline.

   g. Off island commercial fishermen will be restricted to three miles from the shore; Moloka'i commercial fishermen will be able to fish in certain areas more close to shore.

   h. Commercial fishing will be restricted to certain species.

   i. Commercial harvest of all deep sea fish will be allowed (e.g., 'Ōpakapaka, 'Ehu, Aku, Kawakawa, Kona crab, Akule).

   j. Leave the papa close to shore for the kupuna.

   Response:

   There was agreement with most of the provisions made in this proposal; however, it was suggested that the sanctuary boundary be 1 mile from shore instead of three miles. The example of Manele Bay, Lanai was cited as a sanctuary area with a one mile limit that was sufficient enough to protect the resources.

3. Waters off of Hawaiian Home Lands should be reserved for Homesteaders and those accompanied by Hawaiian homesteaders.

Response:

The commercial fishermen objected to this because Hawaiian Home lands is Hawaiian Home lands, not Hawaiian Home waters. No one owns the ocean; thus, the general public is just as entitled to fish in the waters off of Hawaiian Home Lands as do the homesteaders.

4. No off-island users unless accompanied or invited by Moloka'i residents.

Response:

There was wide disagreement with this policy because many Moloka'i commercial fishermen fish at other islands, especially Kaho'olawe and Lanai. It was also expressed that if the fishermen put so much effort to drive to other islands to fish, then deserve to utilize the resources they find.

5. Change new net law to allow for laying net for a 12 hour period instead of 4 hours (e.g., 6 PM to 6 AM) to go by tide instead of by hour.

Response:

There was common agreement that the new law which bans setting net overnight is unreasonable.

a. It was suggested that in addition to laying net from 6 PM to 6 AM, that the net be checked at midnight; the reason for this is to prevent spoilage. It was pointed out that the commercial fishermen check their nets periodically especially since they need to make sure that the fish they bring to the market isn't spoiled.

b. The moe moe net should be limited to 1,000 feet.

c It was pointed out that subsistence fishermen should take more responsibility for the nets. There is often a lot of waste [in it]. That is what prompted the four hours law.

6. a. Require fishing license where the money goes back to protection and conservation.

* Note: Discussion noted that this would pose an unlawful limitation on Native Hawaiian access and gathering rights.

b. Require recreational license.

* Note: Discussion noted that this would pose an unlawful limitation on Native Hawaiian access and gathering rights.

Response:

a. *The commercial fishermen agree that Hawaii should require a fishing license for all those who utilize the fishing resources just as other states have done. The money generated from license fees should go back to the state for enforcement and management purposes.*

b. *Even if the state decides not to charge a fee for a fishing license, at least licensed residents can be sent information about fishing rules and regulations and they won't be able to use the convenient excuse of violation of the laws due to ignorance.*

c. *The state should require that the license number be put on all net floaters.*

d. *All those who violate the fishing laws should lose their right to fish in the state.*

e. *Some suggested that non-commercial users also be required to submit catch reports. Others disagreed with this idea since filling out the forms is too time consuming. Requiring a fishing license would promote conformance to rules and regulations by fishermen.*

f. *If the fishing pressure becomes too intense, then we should limit or stop anymore licensing of commercial fishermen. We should only allow for the commercial fishermen already licensed to pass down their license to their children.*

g. *There is a need to limit the number of commercial licenses which are issued in order to protect marine resources.*

7. $200,000 has been allocated to fishpond restoration and production, we need to also look at getting funding for the purchase of deep sea boats and equipment with trained Hawaiians working them because longliners from out of state (300 boats) are taking all the resources with no economic benefit to us. Should get 2-3 boats engaging eight people each in commercial deep sea fishing.

Response:

a. *There was agreement that the state doesn't benefit when longliners from other states and countries come to Hawaii, they pay only $50 to*

fish here. It was suggested that we compare the number of boats in Hawaii to the number of foreign boats and calculate how much money is brought in by the $50 fee from outside longliners versus the money from the catch that leaves the state.

b. *We should require an out of state license of no less than $50,000 to fish in Hawaiian waters. Alaska was cited as having a good program, they require an out of state license costing $100,000.*

c. *Limit the entry of outside longline fishermen to protect our own fishery.*

d. *The support of a program to train Hawaiian fishermen to become longliners and buying them a boat and the necessary equipment was discouraged since it has already been shown that the state boat loan program has been unsuccessful and that getting a crew has been difficult.*

8. If we are to limit commercial activities, we should make a list of what can be produced (e.g., limu, 'opihi, etc.) to supply the demand and get funding for these aquaculture projects. Encourage production rather than limiting harvesting.

<u>Response</u>:

Aquaculture ventures have had a low success rate because it is not cost effective.

9. Create a system to obtain good quantitative data on fish species, their condition, ocean conditions, anthropogenic impact on the marine environment, the pressure put on the fish supply, etc. Hard data is an important tool to policy making.

<u>Response</u>:

a. *The commercial fishermen agreed that without hard data, we are just spinning one group off the other (e.g., commercial vs. subsistence). Neither the Department of Land and Natural Resources, nor the Fish and Game agency have data on tonnage of fish that goes out annually.*

b. *The facilitator disagreed by citing all the studies that have already been done, yet no action has been taken to make use of these studies.*

10. Allow for harvest of turtles again for home consumption since there is a large population of them.

Response:

Most agreed with this policy; however, caution was encouraged because a recent tagging trip revealed 60% of the turtles found in Moloka'i waters had tumors. Although the numbers of turtles may be higher, there is an epidemic of tumors occurring that may decimate the population.

11. Use the Hawaii Territorial Survey Maps, 1893 showing fishing areas in mapping of sensitive areas.

    a. Establish Honomuni, identified as a traditional offshore fishing should be made a kapu or sanctuary area.

Response:

a. The commercial fishermen had no objections to making Honomuni a sanctuary area., however they want to see the list of all proposed sanctuary areas and rationale for those being designated as sanctuary before determining where sanctuary should be located.

b. Kumimi ("Morris Point") was also recommended to be a sanctuary area since this site is rarely used for fishing anyway and since the tourists and local families like to picnic and camp there. There was a previous proposal to make this a sanctuary and the fishermen have supported it.

12. a. People of a particular ahupua'a should manage the resources in their area, outsiders should respect the residents there and ask permission to fish and gather.

    b. We should consider adopting a similar plan to that of Kalapana on Hawaiian Homelands. Only beneficiaries, ahupua'a tenants and their guests will have access to the ocean resources.

Response:

The commercial fishermen disagreed with this policy because nobody owns the ocean.

13. a. Allow for commercial sale of ta'ape since it is an introduced species and out competes other fish for food and space.

    b. Promote ta'ape kills/eradication program, like goat eradication.

Response:

a. *The market is saturated with ta'ape because there is a low demand for this fish. If people would learn how to eat ta'ape, then there would be a higher demand. (Note: Recipes for ta'ape dishes are already available)*

b. *The commercial fishermen would gladly help to eradicate ta'ape if they could gain a profit by it through compensation by the state.*

14. Not enough enforcement.

a. Increase number of game wardens/marine police to regulate reef and deep sea fishing.

b. Give the harbor master the authority to enforce bag limits.

Response:

a. *The commercial fishermen agreed to this policy. They felt that if the state wants to make more fishing laws, then they first have to enforce the laws already in existence.*

b. *There are enforcement officers on Moloka'i. Their emphasis on enforcement has been more on hunting than fishing.*

c. *Moloka'i should get a marine patrol.*

15. Increase net size to four inch eye to catch only the big ones. (Note: But the big fish are the heavy spawners; eye size of net is not necessarily the solution).

Response:

This is not an effective way to manage the fish supply because this practice will only serve to eliminate the big fish. As the law exists now, we can use 2", 2 1/4", 2 1/2, to 4" eye (with the exception of akule, where you can use 1 1/2" eye). The law is good as it is.

16. Commercial fishermen are overfishing the reefs and leaving nothing for the subsistence users.

Response:

a. *That is not true. If anything, there are less commercial fishermen on the reef today than previous years because of the concern of ciguatera poisoning in the market.*

b. *There is less of a market for reef fish. Thus, reef fishing is not as lucrative.*

17. Develop hatcheries.

Response:

The commercial fishermen wholeheartedly supported this proposal.

a. *It is relatively inexpensive to produce fish hatchlings such as mullet and distribute them all over the Moloka'i coast.*

b. *Opae can also be distributed on the shoreline to encourage the fish to come inshore.*

18. a. No commercial sale of 'opihi.

b. No commercial sale of limu kohu.

c. No commercial sale of 'ala'eke, kūhonu, and a'ama crab.

Response:

The commercial fishermen felt they should refrain from commenting on these policies since they do not particularly impact their livelihood. They recommended that a special meeting be made for the opihi gatherers, the limu gatherers, and crab gatherers alone.

19. Close harbors to commercial fishing because that is where the fish go to spawn.

Response:

It is not effective to close the harbor.

20. Promote education on how to gather and fish properly. Take only what needed; do not waist when using moe moe net; do not take undersize fish and opihi; pluck limu and do not pull by the roots, etc.

Response:

Commercial fishermen are most concerned about proper use of the fishing resources. Subsistence guys need to be educated about the regulations too.

General Comments

1. *The commercial fishermen are apprehensive when it comes to the state because they have had numerous bad encounters with the state. If the stock of fish decreases then the commercial fishermen are automatically blamed and more laws are passed to make it harder to commercial fish.*

2. *So called "Subsistence" users are far from innocent because they do not practice subsistence; they take more than what they need. Some of them lay 10 piece net; the gear they use is more substantial than the gear used by Moloka'i commercial fishermen.*

   **Note: It was clarified by a facilitator that the participants in the district focus group meetings admitted that they were also to blame for the dwindling supply of marine resources. They were in support of having educational programs on the proper way to gather and fish.)*

3. *There are so many laws and regulations put on commercial fishermen and not enough on outsiders who fish Hawaiian waters that the Hawaiian fisherman is becoming an "endangered species". Collecting welfare has become more appealing.*

4. *The job of a commercial fishermen is to catch fish. An ice house was made to enhance commercial fishing on Moloka'i; yet, it's absurd that more and more laws are being passed to regulate commercial fishing.*

5. *Commercial fishermen are aware that if they deplete the resources, then they cut off their own livelihood; thus, they are observant of the laws. It appears that many "subsistence" users don't care (e.g., some non-commercial people do not check their nets; where they could get three coolers of fish, they only get one cooler because the rest are spoiled).*

6. *The commercial fishermen felt they have been unfairly judged, they are just trying to make a living and they supply fish to the elderly and other people who cannot fish.*

7. *Before the state makes new laws, they need to enforce the existing laws.*

8. *We need to understand the relationship between the land and ocean.*

   a. *How does overgrazing by cows affect the ocean? Are there erosion problems?*

   b. *Is there a serious problem of pesticides and fertilizers leaching into the ocean?*

c. *Is contour farming a method that will prevent further soil runoff into the sea?*

9. *Any regulations made on commercial fishermen should apply equally to subsistence fishermen. Subsistence fishermen need to honor the rules and regulations. Commercial fishermen honor the rules because it is their bread and butter. They cannot afford to loose their license.*

APPENDIX VII.

PROFILE OF FOCUS GROUP PARTICIPANTS

The primary purpose of the focus group was to engage the subsistence practitioners in a discussion about Hawaiian subsistence issues and policy and program recommendations. In addition the participants to the focus group discussion were provided an opportunity (but not required) to fill a chart that would give a profile of how they were involved in subsistence activities.[56] The purpose of this information was to gain some understanding of who the participants were and of how a specific subistence activity was carried out and for what aim.

The total number of participants in the focus group discussions conducted for each community were 92; 42 participants compiled the chart for a response rate of 45.6%. A discussion of the percentage of responses is provided below. By subtracting to 100 all the responses one would obtain the number of no responses for each question.

TABLE XIV

Participants Profile Form: Participation Rates

Community Focus Group	Number of Participants	Number of Responses	Response Rate
Kaunakakai to Makakupa'ia	10	7	70%
East End: Makakupa'ia to Hālawa	40	14	35%
Mauna Loa	22	10	45%
Ho'olehua	14	9	64%
Hawaiian Homesteads	6	2	33%
Totals	92	42	46%

[56] See Appendix V. b Participants' Response Profile Form.

Hunting

Eighty six practitioners responded questions about hunting. The respondent indicated that hunting benefits people beyond the immediate family of the hunter. To the question "How many people (family and friends) benefit from your hunting activity?" 12.7% answered between 1-9 people; 11.6% answered between 10-29 people; and 5.8% answered more than 30 people. Some, or 5.8%, did not gave a specific number but indicated that many people benefit from their hunting activity; and 4.6% responded that those that benefit are family "in need" or their own 'ohana. It appears that hunting was more than one week-end activity, Hunting was done when there was a need for meat; 31% indicated that they hunt between 1-9 times a month; 3.4 % between 10-19 times a month; and 6.9% that they hunt only occasionally, or between 1-4 times a year. Hunters on Moloka'i have many years of experience in this activity; only 2.3% have been hunting for less than 9 years; 12.7% have been hunting between 10-29 years; 8.1% hunted over 30 years and 11.6% hunted all their life. Hunting was learned in one's social family network; only 2.3 % learned hunting on their own; 11.6% learned within their nuclear family, parents or grandparents; 11.6% learned from their own 'ohana and 6.9% from their friends. Most hunters then relied on their relatives to learn this practice; only 2.3% were the first in starting hunting in their family; most everybody else were aware that hunting has been an activity passed on though generations in their family; 23% indicated between 3-5 generations and 5.8% many generations. Thus hunting on Moloka'i was a family tradition. Hunting was predominantly done to secure meat to eat; about 37.2% answered that they do hunt for food; 8.1% indicated that their reason was to perpetuate a traditional lifestyle; 2.3 % clarified that they do it to educate their own children; 4.6% for sport and recreation; and no one indicated that they hunt to make money.

Fishing

Ninety practitioners answered questions about fishing. Fishing benefits a close knit number of people; 10% indicated that between 1-9 people benefit from their fishing activity; 4.4% stated that between 10-19 people benefit; and 3.3% that many people benefit. Fishing was an important subsistence practice; it was undertaken occasionally by 4.4% of the respondents; it was done regularly by 26.6%, who went fishing 1-9 times a month; 6.6% went fishing frequently, 10-19 times per month; and 1.1% went daily. People have years of experience in fishing; 5.5% have been fishing between 1-9 years; 5.5% 10-19 years; 5.5% 20-29; 8.8% over 30 years and 11.1% have been fishing all their life. Responses underline the role of the parents, forefathers and the extended family in learning traditional fishing practices; only 1.1% learned fishing by themselves; 12.2% learned from their parents and grandparents; 16.6% from their 'ohana; 6.6% from their friends; and 1.1% from their

spouse. Fishing has been practiced by many generations in a family; 4.4% indicated less than 3 generations; 15.5% between 3-5 generations; and 7.7% many generations. Fishing was a traditional practice which help to feed people. It was done by 31.1% of the respondents to obtain food to eat; 6.6% indicated that their reason to engage in fishing was the perpetuation of a traditional subsistence lifestyle; 6.6% sport and recreation; 5.5% commercial and income generation; 3.3% education of children; and 1.1% food diet.

Ocean Gathering

Eighty-five practitioners answered questions about ocean gathering. What was gathered from the ocean was made available to others; 15% felt that between 1-9 people benefit from their ocean gathering activity; 4.7% felt that between 10-19 people benefit; 11.7% indicated that more than 20, or many people benefited; and 5.8% identified the family, the 'ohana and friends as the beneficiary, without stating a number. Ocean gathering was another subsistence activity undertaken in a sustained way; it was done occasionally or few times a year by 8.2% of respondents; regularly by 21.1% who went ocean gathering 1-9 times a month; frequently by 4.7%, or 10-19 times a month and 1.1% went daily. Only 1.1% have been going ocean gathering for less than 4 years. 2.3% 10-19 years; 5.8% 20-29 years; 8.2% more than 30 years; and 14.1% all their life. The social network help to learn how to gather; only 1.1% learned ocean gathering by themselves; 14.1% learned from their parents or grandparents; 11.7% from their 'ohana; 7% from their friends; and 1.1% from their spouse. Ocean gathering was learned through several generations in a family; only 3.5% have been going ocean gathering for one generation; 17.6% have been going for 2-5 generations; and 10.5% stated many generations, without giving a number. Ocean gathering was a traditional way to secure seafood; it was an activity done by 30.5% to obtain food to eat; 5.8% for the perpetuation of a subsistence lifestyle, 3.5% to educate the children; 3.5 for commercial and income generation; 2.3% for sport and recreation; 2.3% to obtain stones to build walls; and 1.1% for food diet.

Forest Gathering

Seventy-nine answered questions about forest gathering. Forest gathering was shared within a relatively small group; 12% indicated that between 1-9 people benefit from their forest gathering; 6.3% indicated that between 10-40 people or more benefit; and 6.3% stated that those who benefit are their family members and their friends. Forest gathering was done occasionally, or few times a year by 5% of the respondents; regularly by 8.8% respondents going forest gathering 1-9 times a month; and 1.1% went daily. Forest gathering was a skill that relies on the experience of several years; 11.3% went forest gathering for 10-29 years; 3.7% went for over 30 years; and 8.8% went for all their life. Forest gathering was a new activity for some, but it was normally learned within the social network; some respondent,

or 5%, learned on their own how to gather in the forest; 13.9% learned from their parents or grand parents; 10.1% from their 'ohana; 6.3% from their friends; and 2.5% from their spouse. Forest gathering was an activity done by several generations in a family, with 13.9% responding between 2-5 generations and 3.7% indicating many generations. Forest gathering was done for a number of reasons; by 12.6% of the respondents to obtain food to eat; by 8.8% to engage in a traditional subsistence lifestyle; 7.5% for medicinal use and for diet; 2.5% for making lei; and 2.5% for educating children.

Gardening

Eighty-one participants answered questions about gardening. Garden produces are used in the family and given away; 12% felt that between 1-9 people benefit from their gardening activity; 12.3% indicated that between 10-40 people or more benefit; and 9.8% stated that who benefit are their 'ohana and their friends. Gardening was an accessible and assiduous endeavor; it was done occasionally by 1.2% of respondents; regularly by 3.7% or 1-9 times a month; frequently by 2.4% or 10-19 times a month; often by 4.9% 20 times a month or more; and daily by 13.5% of the respondents. Gardeners had years of experience; only 1.2% engaged in gardening for less than 9 years; 12.3% did gardening 10-29 years; 3.7% did gardening for more than 30 years and 13.5% were involved in gardening all their life. Gardening was learned in the social network, but also self-taught; about 7.4% learned gardening on their own; 12.3% learned from their parents or grandparents; 16% from their 'ohana and friends; and 2.4% from their spouse. Gardening was an activity that was done by several generations in a family; 9.8% indicated between 3-5 generations; was an activity which was done 3-5 generations; and 8.6% indicated more than that or many generations, without giving a number. Gardening was a traditional way to obtain food; it was done by 20.9% to provide food to eat; by 6.1% to engage in a traditional subsistence lifestyle; by 3.7% for educating children and only by 1.2% for commercial purpose to make some money.

Raising Animals

Eighty-one participants responded to questions about raising animals. Raising animals benefit a close group of people; 12% stated that between 1-9 people benefit from this activity; 3.7% indicated that between 10-19 benefit and 3.7% that 40 people or more benefit; 4.9% identified the family and the 'ohana as the beneficiary. Animals need to be looked after; they were taken care occasionally by 2.4% of the respondents; regularly 1-9 per month by 3.7%; often 10-19 times a month by 3.4%; frequently 20 time a month or more by 4.9% and daily by 13.5% of the respondents. Respondents had years of experience in raising animals; only 3.7% raised animals for less than 5 years; 7.4% raised animals 5-29 years; 6.1% for 30 years or more and 14.8% raised animals all their life. About 6.1% learned to raise animals on their

own; 14.8% learned from their parents or grandparents; 13.5% from their 'ohana and friends; and 1.2% from their spouse. Raising animals was done for 2-5 generations by 12.3% of the respondents; and for many generations by 6.1%. Raising animal was done to obtain food to eat by 16% of the respondents; to perpetuate a subsistence lifestyle by 9.8%; to educate children by 2.4%; and for sport and recreation by 2.4%.

Commercial Fishing

Only four commercial fishermen completed the participants profile form. These respondents felt that commercial fishing was an activity that benefited a large group of people of the island of Moloka'i (all those that buy fish or eat fish at a restaurant). Each fishermen also benefited family and friends by providing fish to them. Commercial fishing involved between 10 to 20 days a month. Commercial fishermen had more than 25 years of experience in fishing. They learned from their father or from friends. Commercial fishing was seen as a way to earn a living, pay bills, be self employed, and provide for one's family.

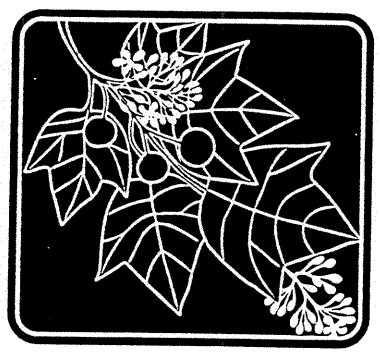


TABLE XV

Participants' Profile Tally of Responses

Activity	How many people (family & friends) benefit from your activity?	How often do you do this activity monthly?	How many years have you done this activity?	Who taught you? Relation to you?	How many generations in your family have done this?	For what reasons do you do this activity?
Hunting	1-9.....11	1-9/month.....27	1-4 years.....2	Self.....2	1 generation.....2	Food to eat.....32
	10-19.....7	10-19/m.....3	5-9 years.....0	Parents.....6	2 generation.....0	Sub. Lifestyle....7
Total: #86	20-29.....3	20/m. or more...0	10-19 years.....6	GrandParents....4	3 generation.....9	Sport/recreat....4
	30-39.....1	Daily.....0	20-29 years.....5	'Ohana.....10	4 generation.....7	Children educ....2
	40 & above.....4	Occasionally.....3	30 y. & over.....7	Friends.....6	5. generation.....4	Diet.....0
	Many, a lot.....5	Few times/	All my life.....10	No response.....63	More/many.....5	$ income.....0
	'Ohana/family..3	year.....3	No response....56		Unknown.....1	No response.....41
	Friends.....1	No response.....50			No response.....63	
	No response.....51					
Fishing	1-9.....9	1-9/month.....24	1-4 years.....2	Self.....1	1 generation.....1	Food to eat.....28
	10-19.....4	10-19/m.....6	5-9 years.....3	Parents.....6	2 generation.....3	Sub. lifestyle....6
Total: #90	20-29.....0	20/m. or more...0	10-19 years.....5	GrandParents....5	3 generation.....8	Sport/recreat...6
	30-39.....0	Daily.....1	20-29 years.....5	'Ohana.....15	4 generation.....3	Children educ...3
	40 & above.....0	Occasionally.....3	30 y. & over.....8	Friends.....6	5. generation.....3	Diet.....1
	Many, a lot.....3	Few times/	All my life.....10	Spouse.....1	More/many.....7	$ income.....5
	'Ohana/family...0	year.....1	No response.....57	No response.....56	Unknown.....0	No response.....41
	Friends.....0	No response.....55			No response.....65	
	No response.....73					
Gathering (Ocean)	1-9.....13	1-9/month.....18	1-4 years.....1	Self.....1	1 generation.....3	Food to eat.....26
	10-19.....4	10-19/m.....4	5-9 years.....0	Parents.....6	2 generation.....2	Sub. Lifestyle....5
	20-29.....1	20/m. or more..0	10-19 years.....2	GrandParents....6	3 generation.....5	Sport/recreat....2
Total: #85	30-39.....0	Daily.....1	20-29 years.....5	'Ohana.....10	4 generation.....5	Children educ....3
	40 & above.....2	Occasionally.....5	30 y. & over.....7	Friends.....6	5. generation.....3	Diet.....1
	Many, a lot.....6	Few times/	All my life.....12	Spouse.....1	More/many.....9	$ income.....3
	'Ohana/family..3	year.....2	No response.....58	No response.....55	Unknown.....0	Stone gather.....2
	Friends.....2	No response.....55			No response.....58	No response.....43
	No response....54					
Gathering (Forest)	1-9.....10	1-9/month.....7	1-4 years.....0	Self.....4	1 generation.....0	Food to eat.....10
	10-19.....1	10-19/m.....0	5-9 years.....0	Parents.....6	2 generation.....3	Sub. Lifestyle....7
	20-29.....0	20/m. or more...0	10-19 years.....4	GrandParents....5	3 generation.....4	Sport/recreat....3
Total: #79	30-39.....1	Daily.....1	20-29 years.....5	'Ohana.....8	4 generation.....3	Children educ....2
	40 & above.....2	Occasionally.....1	30 y. & over.....3	Friends.....5	5. generation.....1	Diet/medicinal..6
	Many, a lot.....1	Few times/	All my life.....7	Spouse.....2	More/many.....3	$ income.....0
	'Ohana/family...3	year.....3	No response....60	No response.....49	Unknown.....1	Leis.....2
	Friends.....2	No response.....67			No response.....64	No response.....49
	No response.....59					
Gardening	1-9.....10	1-9/month.....3	1-4 years.....0	Self.....6	1 generation.....0	Food to eat.....17
	10-19.....3	10-19/m.....2	5-9 years.....1	Parents.....6	2 generation.....0	Sub. Lifestyle....5
Total: #81	20-29.....1	20/m. or more...4	10-19 years.....5	GrandParents....4	3 generation.....2	Sport/recreat....2
	30-39.....0	Daily.....11	20-29 years.....5	'Ohana.....8	4 generation.....4	Children educ....3
	40 & above.....3	Occasionally.....1	30 y. & over.....3	Friends.....5	5. generation.....2	Diet.....0
	Many, a lot.....3	Few times/	All my life.....11	Spouse.....2	More/many.....7	$ income.....1
	'Ohana 5	year.....0	No response...56	No response.....50	Unknown.....2	No response.....53
	Friends.....3	No response.....60			No response.....64	
	No response.....53					
Raising Animals	1-9.....10	1-9/month.....3	1-4 years.....2	Self.....5	1 generation.....0	Food to eat.....13
	10-19.....3	10-19/m.....3	5-9 years.....1	Parents.....8	2 generation.....1	Sub. Lifestyle....8
Total: #81	20-29.....0	20/m. or more...4	10-19 years.....3	GrandParents....4	3 generation.....3	Sport/recreat....2
	30-39.....0	Daily.....11	20-29 years.....2	'Ohana.....8	4 generation.....4	Children educ....2
	40 & above.....2	Occasionally.....2	30 y. & over.....5	Friends.....3	5. generation.....2	Diet.....0
	Many, a lot.....1	Few times/	All my life.....12	Spouse.....1	More/many.....5	$ income.....0
	'Ohana/family..4	year.....0	No response....56	No response.....52	Unknown.....1	No response.....56
	Friends.....0	No response.....58			No response.....65	
	No response.....61					

APPENDIX VIII.

LISTING OF SITES AND AREAS BY TYPE OF SUBSISTENCE ACTIVITY

Fishing (Bleu Dots)

Fishing include both fishing from the shore and from the boat, net fishing, pole fishing etc. Fishing occurs along the entire coast, it is most predominant on the South East-end (Kaunakakai - Kamalō - Cape Hālawa) and on the north coast (ʻĪlio Point - Moʻomomi Bay - Kalaupapa) and South Coast of the West-End (Lāʻau Point - Halena).

Also very important is fishing on the West Side (ʻĪlio - Lāʻau Point) along the coast. The shoreline is less marked by dots on the South-East shore from Kolo Wharf to Kaunakakai and on the remote North-West shore from Kalaupapa to Hālawa Bay. However fishing sites were marked at Pelekunu, ʻOloʻupena and Wailau, Hākaʻaʻano and Pīpīwai on the North West-end shore and at Kaumanamana Point, Waiakāne and Pākanaka and Kaluaapuhi on the South shore.

The closeness of the bleu dots to each others on the West-end is explained by the fact that some of the West-end participants wanted to stress the importance of fishing all along the coast, and they did not spaced the dots as the participants of the East-end did. Even accounting for the different way participants located the dots, the overall picture that emerges is the substantial use and importance of shoreline fishing along the shoreline. Moʻomomi Bay, Kawākiu and Hālena were particularly pointed out on the West-end and sites from Kumini to Cape Hālawa on the East-end.

Ocean Gathering (Lavender Dots)

Ocean gathering involves taking limu, ʻopihi, alaʻeke, kūhonu, ʻaʻama crabs, etc. along the shoreline and on the reef (Lavender Dot). On the East-end many ocean gathering sites are marked along the coast from Poʻolau Beach to Lāʻau Point all the way to Waiakāne and in a scattered fashion along the North shore from Kawaihau Bay to ʻAwahua Bay. On the South shores there are scattered ocean gathering dots from the mud flats to Kamalō. Dots are more frequent from Kamalō to Kūpeke. Gathering sites are generally marked in a scattered fashion all along the East-side South shore as well as the North shore.

Future Ocean Sites to Access and/ or Protect (Yellow Dots)

Almost each sub-district has sites for which the access is sought for future use and for which special protection from overuse, inappropriate use, and exploitation is warranted (yellow dots). Major sites pointed out include:

- North West-end: ʻĪlio Point, Moʻomomi Bay, ʻAwahua Bay;
- South West-end: Lāʻau Point,
- South shore: Pālāʻau, around Kaunakakai, Kamalu, Kalaʻe Loa Harbor Ualapu'e, Waialua;
- North East-end: Hālawa and all along the North shore, particularly Wailau, Pelekunu, Leina o papio Point and Kaiu Point.

Hunting (Red Dots)

Hunting follows the game. Currently there are three major areas where deer hunting occurs:

- Along the North East-end coast from Moʻomomi to ʻĪlio Point and South-West to Kamākaʻipō and across Kakaako Gulch.
- In the gulches above the South shore from Hakina to Pālāʻau Homestead on Molokaʻi Ranch land, particularly around Punakou at Puʻu Nāna.

- Scattered hunting sites are indicated throughout an arch in the forest reserve from Kualapuʻu, above Kakahaiʻa, above Pūkoʻo and Pākaikai, on the slope of Keahu o Kū, well into Hālawa Valley to Kaonihu on the North East-end. Relative little hunting was indicated in the DHHL lands where hunting is administered by DLNR.

Forest and Stream Gathering (Peach Dots)

Forest and stream gathering indicates sites important for the gathering of plants and herbs for medicinal, hula Halau and other uses and occasions (Peach Dot). Stream gathering refers to the taking of hihiwai shells and other fresh-water animals.

- West-end: plant gathering occurs around Maunaloa town, at Puʻu Apalu, Kepuhi Bay, Mahna, Punakou and WaiaHewahewa West of the airport.
- Central: Puʻu Kanaio, Manawainui, Hoʻolehua, all around Maʻālehu and Palāʻau State Park, above Kaunakakai, in Kaunakakai Gulch, Kamoku Flats, above and inside Kalaupapa.
- East-End: Waikolu, Pelekunu, and with an intense concentration of sites throughout Wailau for both plant and stream gathering. Gathering sites are also found through Hālawa Valley and many sites all above Kaluaʻaha, Pūkoʻo, Waialua and at Pualanalana.

Gardening (Green Dots)

Gardening, or planting, refers to cultivation of plants and trees for food, ornamental and other uses. Gardening takes places in the following places: (a) within a residential parcel, (b) homestead agricultural allotment, and (c) mauka of the settled area on the East-end.

- West-end: Gardening sites are in the inhabited areas of Maunaloa and Ho'olehua-Pālā'au.
- East-end: many gardening sites are on the gulches from Mapulehu , Pūko'o, Pauwalu, Waialua all the way into Hālawa. Isolated planting sites are also at Pelekunu and Wailau.

Raising Animals (Lavender Dots)

Sites for raising animals are located at Ho'olehua-Pālā'au Homestead area, at Kalanianaole Colony, Waialua, Waikolu, Pelekunu, Hālawa, and Waialua. Little discussion covered this topic in the focus group. Conceivably, more sites would emerge in a more detailed discussion of this topic.

Future Land Sites to Access and/ or Protect (Yellow Dots)

- West-end: 'Īlio Point, Kepuhi and Lā'au Point, are areas to open and protect. In these zones there are scattered yellow dots indicating the desire to open access to hunting grounds and to protect sites particularly close to inhabited areas such as Maunaloa and along the road from Maunaloa to Lono Harbor to the South. Yellow dots are also locate at Kamākaipō.
- Central: Kalamaula, Kalamaula Homesteads, Kamiloloa; a number of sites at Kalaupapa.
- East-end: Kolekole, Pulena Stream, Wai'ale'ia, Wailau Stream, Hālawa, Kalanikāula at Pu'u o Hoku Ranch.

Range of Subsistence by Type of Activity and Community

The following is an identification of were practitioners of each community went to engage in a specific subsistence activity:

<u>Fishing</u>

- Hawaiians from Kaunakakai to Makakupai'a District marked fishing sites from Hālawa to Kumini.

- Hawaiians from Makakupai'a to Hālawa District marked this entire South East-end coast.
- Hawaiians from Maunaloa District marked sites on the West shore from Kawākiu around Lā'au and to Kolo Wharf on the South shore.
- Hawaiians from Ho'olehua District marked fishing sites all along the North coast from 'Īlio to Hālawa.
- Hawaiians from Homesteads (this focus group was smaller than the others) marked few sites at Kawākiu, Pāpōhaku Beach, Kolo Wharf, the Mud Flats, Kamalo, and Mapulehu, Hālawa, Wailau, Pelekunu, indicating a range all around the island. This group marked also many sites in need of protection and / or for future access (Yellow Dot) along the South shore, at Apana I and Apana II, around Kaunakakai and at Kala'e Loa Harbor and 'Ualapu'e, Mapulehu and Waialua.

Hawaiians from Makakupa'ia to Hālawa marked also many sites in need of protection and / or for future access (Yellow Dot) along the North East-end shore, demonstrating an interest in that pristine coast for both fishing and ocean gathering.

Ocean Gathering

- Hawaiians from Kaunakakai to Makakupa'ia marked sites East of Kaunakakai along the mangroves and mud flats around Kahanui and West at Kamiloloa, Ali'i Park, and Kāhililoa to Kamalō; and scattered sites on the North shore below Ho'olehua and Pālā'au.
- Hawaiians from Makakupa'ia to Hālawa marked many sites at Paoaloa fishpond and 'Ualapu'e fishpond, and the sites at Pūko'o, Moanui Stream, Keāina, and Kāhei Point.
- Hawaiians from Maunaloa marked many sites all along the South shore and the West Shore of the West-end up to Po'olau Beach.
- Hawaiians from Ho'olehua Homesteads marked sites along the North coast East and West of Mo'omomi Bay and one site at Kaunalā Bay on the East-end Shore.
- Hawaiians Homesteaders did not marked sites, as so many were already marked, instead they marked ocean sites in need of protection on the South shores from Kamalō to Waialua.

Hunting

- Hawaiians from Kaunakakai to Makakupa'ia marked a number of sites in the forest reserve of the East-end and two sites at Pu'u 'Ula on the North East-end.
- Hawaiian from Makakupa'ia to Hālawa marked sites mauka of their residence and across Hālawa valley to Kanupa on the North coast.
- Hawaiians from Maunaloa marked many sites on the East-end from Akina, Punakou, to Pu'u Hoolehua and from Kamāka'ipō to Pāpōhaku Gulch.

- Hawaiians from Ho'olehua Homesteads marked sites mauka of Mo'omomi Bay, some other sites on the South East-end, at Kalamaula, Pelekunu and Wailau valley.
- Hawaiians Homesteaders marked sites at Kalamaula, Kalawao, Kamiloloa, and Kawela.

Forest & Stream Gathering

- Forest and stream gathering was extensively marked by those attending the focus group for Lā'au gatherers. Some Hawaiians from specific district reach outside their district in the forest reserve for stream and plant gathering.
- Hawaiians from Makakupa'ia to Hālawa marked sites mauka of 'Ualapu'e Pūko'o and several sites inside Wailau valley and Pelekunu valley.
- Hawaiians from Ho'olehua Homesteads marked sites in the forest reserve at Pelekunu, Wailau, Hālawa, Keōpukaloa and Waialua.
- Hawaiians Homesteaders marked sites in at Kaulapapa, in the forest reserve at Waikolu, Pelekunu, and Wailau, and also Hālawa valley.

Gardening

- Hawaiians from Makakupa'ia to Hālawa marked many sites mauka of the settled area from Kalua'aha all the way to Hālawa valley, indicating an uninterrupted activity in traditional areas.
- Hawaiians from Maunaloa marked only the site inside the town itself.
- Hawaiians from Ho'olehua Homesteads marked sites within the homestead area.
- Hawaiians Homesteaders marked sites in Pālā'au and one site between Pauwalu and Waialua.

Raising Animals

- Hawaiians from Makakupa'ia to Hālawa marked many sites at Waikolu.
- Hawaiians from Ho'olehua Homesteads marked sites within the homestead area and also at Waialua.
- Hawaiians Homesteaders marked sites North of Pāla'au and at the Kalanianaole Colony.

Future Sites to Access and /or Protect

- Hawaiians from Kaunakakai to Makakupa'ia were concerned with sites at Kalaupapa, at Kawa'aloa Bay on the North coast and at Kala'e Loa Harbor on the South shore.
- Hawaiian from Makakupa'ia to Hālawa were concerned with sites at Kilohana, East of Pūko'o on the East-end South shore, at Kalanikāula, at Hālawa, on the North coast at Gulch, Puahauni Point, Papalua valley, Wailau, along the coast to Pelekunu, and from Pelekunu to Keawaiki.
- Hawaiians from Maunaloa were concerned with hula places North of Punakou and the safety from hunting in the town itself and along the road

from Maunaloa to Lono harbor. They also identified important sites at Halena and in the gulches toward La'au Point on the South East-end.

- Hawaiians from Ho'olehua Homesteads were very concerned with 'Īlio Point, Mo'omomi Bay, a site on the North coast below the homestead and at 'Awahua Bay, and sites at Kalaupapa, Pelekunu, Wailau, and Pu'u o Hoku Ranch.
- Hawaiians Homesteaders were concerned with sites on the North coast at Pelekunu, Wailau, Hālawa, South East-end at Pipi'o fishpond reef, 'Ualapu'e reef, Kamalō Harbor, Kawela reef, mauka sites at Kamiloloa, Kalamaula, North of Pālā'au, Kawākiu Bay at the North East-end, Kamāka'ipo East-end, and with many sites on the reefs off of Pālā'au Homesteads and off Kalanianaole Colony, off Kaunakakai and Kamiloloa.

Subsistence Use in the Hawaiian Homestead Lands

- Ho'olehua (13,076.26 acres). All the makai->mauka subsistence activities: mainly fishing, ocean gathering, gardening and raising animals and coastal sites to protect; little hunting.
- Kalama'ula (5,116 acres). Makai->mauka subsistence activities: ocean gathering, coastal sites to protect, forest gathering, mauka site to protect and access, raising animals hunting.
- Kapa'akea-Kamiloloa-Makakupa'ia (5,183.34 acres). All subsistence makai->mauka activities: fishing, ocean gathering, forest gathering, hunting and forest sites to access and protect.
- Kalaupapa (1,2477 acres). Area not yet included in this study.
- Pāla'au Apana 1 (548.70 acres). Subsistence makai->mauka activities: fishing, ocean gathering, coastal sites to protect, land gathering, and hunting.
- Pāla'au Apana 3 (548.70 acres). Subsistence makai->mauka activities: fishing, coastal sites to protect, hunting and forest gathering.

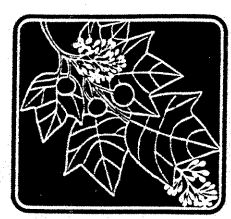


Fig. 1 and Fig. 2 Task Force Meetings at Kaunakakai
(picture above and below)

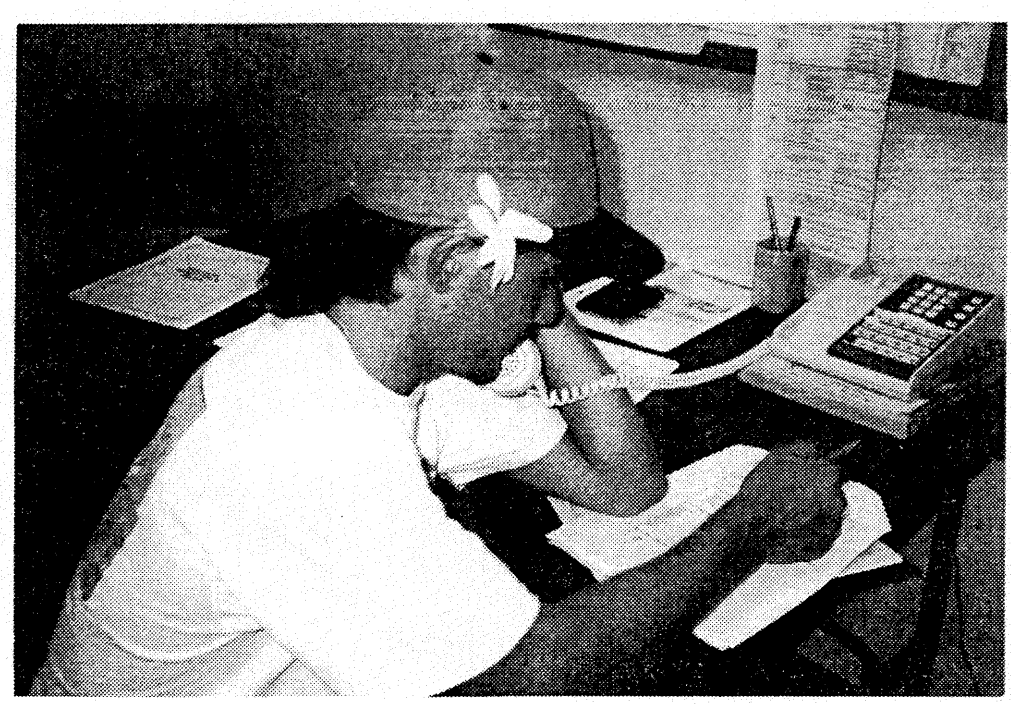


Fig. 3 and Fig. 4 Interviewers Conducting the Random Survey
(picture above and below)

Fig. 5 Maunaloa Focus Group

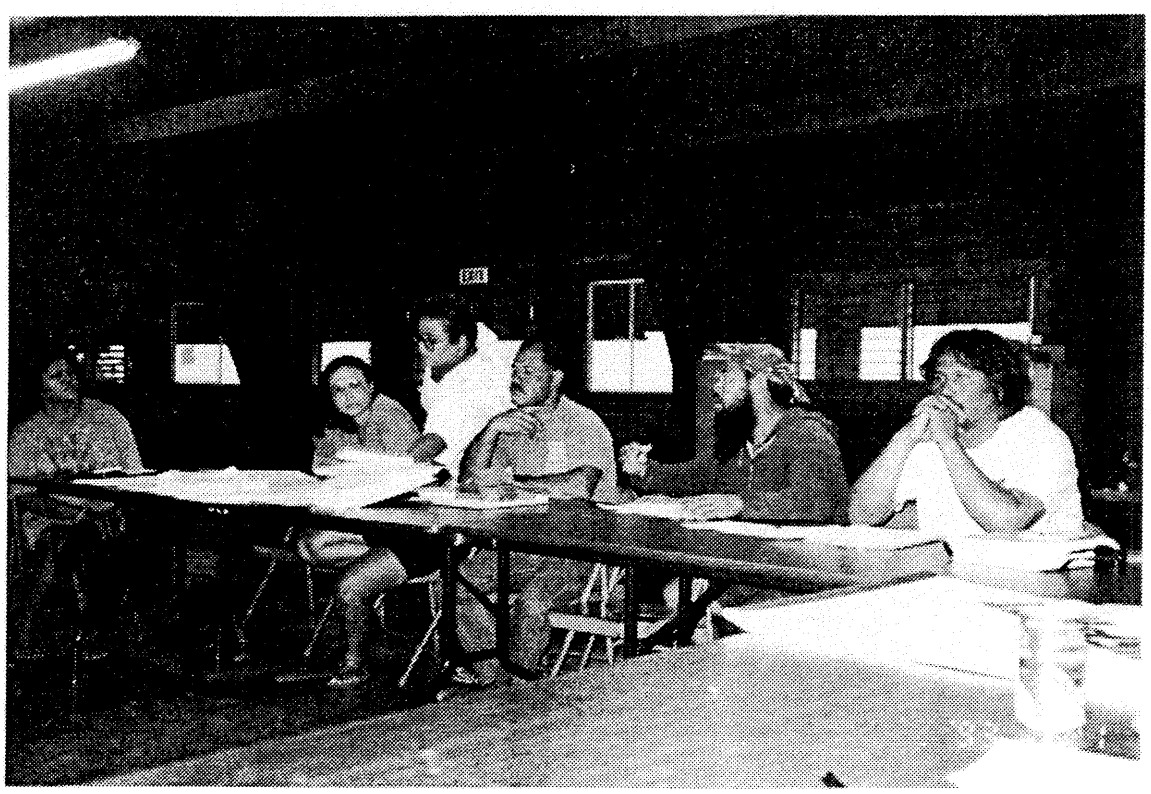


Fig. 6 East-End Focus Group

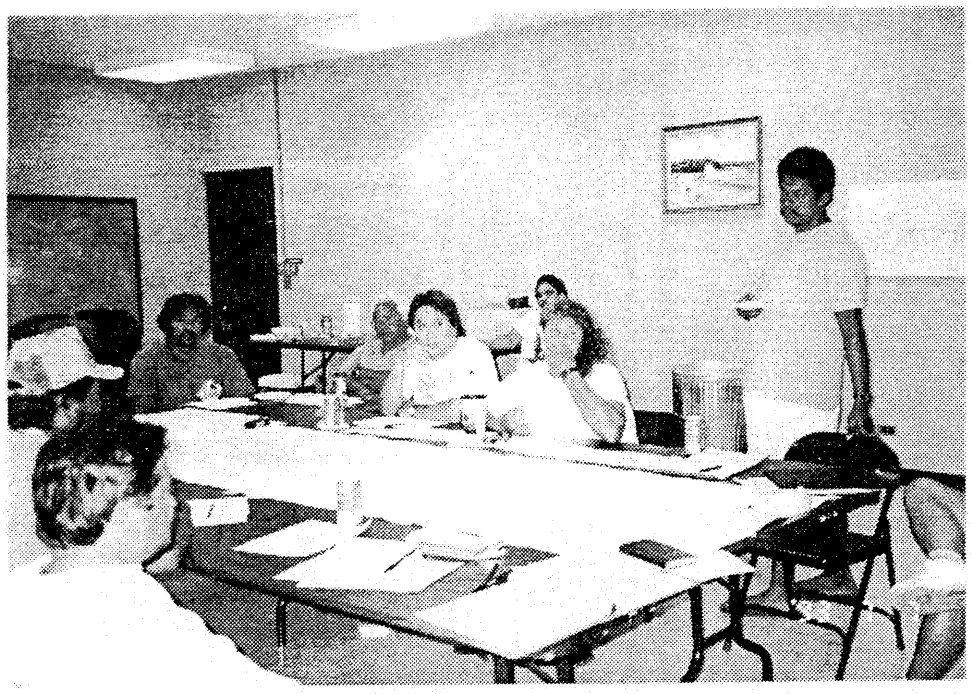


Fig. 7 Kaunakakai to Makakupa'ia Focus Group

Fig. 8 Discussing Plant Gathering

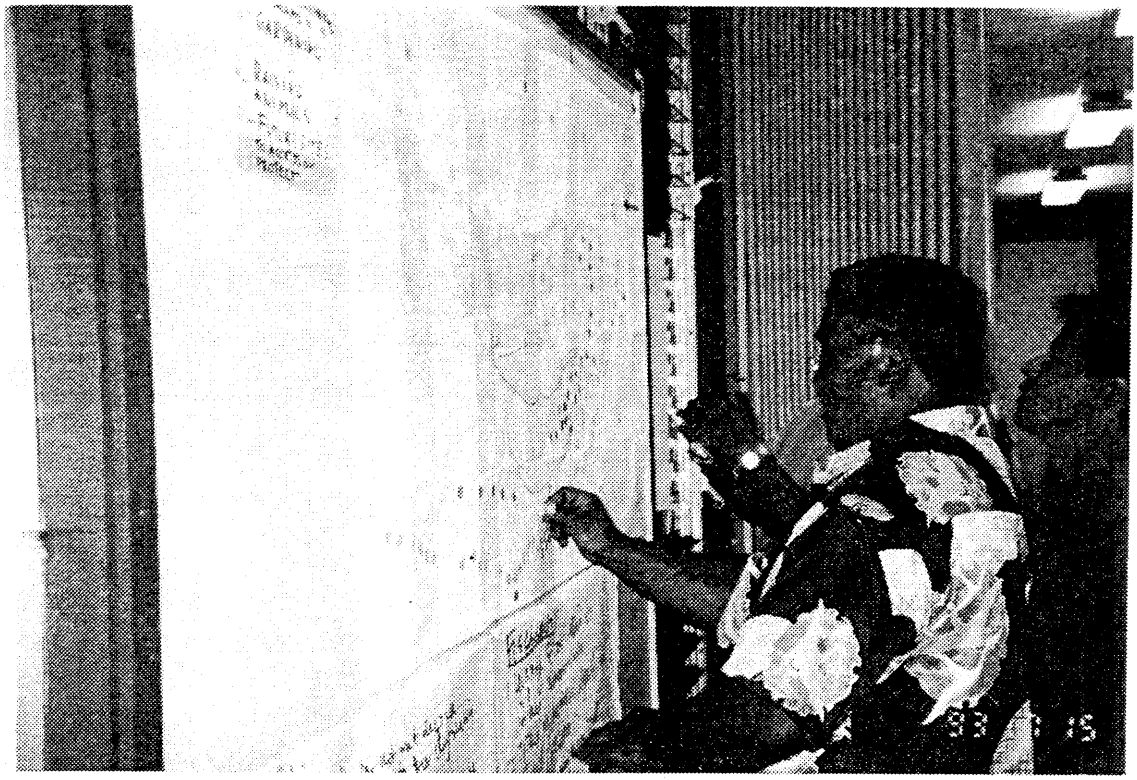


Fig. 9 The Mapping of Subsistence Sites: East-End Focus Group

Fig. 10 Commercial Fishermen Focus Group at Kaunakakai

Fig. 11 and Fig. 12 Community Meeting at Kaunakakai
(picture above and below)